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**ARTHROPODS OF MEDICAL IMPORTANCE IN ASIA
(AND THE EUROPEAN USSR)**

Part II of Two Parts, Printed Separately

by

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**ARTHROPODS OF MEDICAL IMPORTANCE IN ASIA
(AND THE EUROPEAN USSR)**

PART II

Data on Arthropods other than Mosquitoes

[Part I, published separately, contains
Introductory and Explanatory Material
and Data on Mosquitoes]

TABLE OF CONTENTS

	<u>Page</u>
PART II DATA ON ARTHROPODS OTHER THAN MOSQUITOES	
B. Black flies	323
1. Table 1. Black flies	324
2. Literature cited	340
C. Sand flies	345
1. Table 1. Sand flies	346
2. Table 2. Summary of diseases or disease organisms transmitted by sand flies	368
3. Literature cited	370
D. Midges	381
1. Table 1. Midges	382
Addenda	402
2. Table 2. Summary of diseases or disease organisms transmitted by midges	403
3. Literature cited	404
E. Horse flies	407
1. Table 1. Horse flies	408
2. Literature cited	488
F. Biting flies	495
1. Table 1. Biting flies	496
2. Literature cited	498
G. Non-Biting flies	499
1. Table 1. Non-Biting flies	500
2. Table 2. Summary of diseases or disease organisms transmitted by non-biting flies	504
3. Literature cited	508
H. Fleas	511
1. Table 1. Fleas	512
2. Table 2. Summary of disease or disease organisms transmitted by fleas	575
3. Literature cited	576

TABLE OF CONTENTS

	<u>Page</u>
I. Bugs	587
1. Table 1. Bugs	588
2. Literature cited	590
J. Urticating and vesicating arthropods	593
1. Table 1. Urticating and vesicating arthropods	594
2. Table 2. Summary of diseases or disease organisms transmitted by urticating and vesicating arthropods	597
3. Literature cited	599
K. Ticks	601
1. Table 1. Ticks	602
2. Table 2. Summary of disease or disease organisms transmitted by ticks	641
3. Literature cited	643
L. Mites	657
1. Table 1. Mites	658
2. Table 2. Summary of diseases or disease organisms transmitted by mites	670
3. Literature cited	672
M. Miscellaneous arthropous	677
1. Table 1. Miscellaneous arthropods	678
2. Table 2. Summary of diseases or disease organisms transmitted by miscellaneous arthropods	681
3. Literature cited	683

INDEX OF COUNTRIES

In 1962 a world-wide Geographic Index was published* listing all countries or major regions in alphabetical order, and assigning a number to each. The following list consolidates the countries of Asia from that Index and makes a few additions to it. The countries, as named at the time of publication of the present report, are shown on the adjacent map. Major islands and important political units having less than country status are also identified on the map and in the following list.

All the numbers of Asian countries, and areas in Europe controlled by the Soviet Union, are listed in order. All entries in this report use these numbers instead of country or regional names. For example, when number 3 is entered, it stands for Afghanistan; 59 stands for Burma. Where the authors have not recorded a specific country, an inclusive title is entered, e.g., 31 for Asia. This is the principal purpose of the Index: to identify the countries represented by numbers under DISTRIBUTION (Table 1) or COUNTRY (Table 2).

The Index also includes at least the major synonyms. The synonymy is preceded by a dash, the numbers appearing with the main entries. For example, the number 150 identifies Iran, but in alphabetical order among the P's is the synonym "-Persia or Iran, 150".

All countries in the 1962 Index are listed and cross-referenced through "332. Yemen" (the last number). The addenda to the original Geographic Index start with number 337. The numerical order is maintained in the addenda, but not the alphabetical order. However, entries from the addenda are cross-referenced alphabetically in the main list. For example, in the main list we have "-Middle East (Inclusive title), 340."

*B. V. Travis, Herbert H. Casewell, Jr., William B. Rowan, Helle Starcke, and Carl W. Ross: Classification and coding system for compilations from the world literature on insects and other arthropods that affect the health and comfort of man, Technical Report ES-4, Quartermaster Research & Engineering Center, Natick, Massachusetts, 1962, 259 pp.

INDEX OF COUNTRIES

2. Aden Protectorate (formerly), now South Arabian Federation
3. Afghanistan
 - Amindivi Islands, indexed with Laccadive Islands, 172
11. Andaman Islands
25. Arabian Peninsula (inclusive title)
28. Armenian S.S.R.
30. Ashmore Reef
31. Asia (Inclusive title)
 - Asia Minor (Inclusive title), 350
35. Azerbaijan S.S.R.
37. Bahrain and Associated Islands
 - Bali, indexed with Indonesia--Java, Flores, Timor, 146
 - Bangka, indexed with Indonesia--Sumatra, 149
 - Batan Islands, indexed with Philippines, 242
46. Bely Island or Petrov Belyy or White Island
 - Bengal (Inclusive title), 366
47. Bering Sea Islands including Nunivak Island
49. Bhutan
 - Billitor Island or Belitung, indexed with Indonesia--Sumatra, 149
 - Bonin Islands, indexed with Ogasawara Gunto, 232
 - Borneo, Indonesian, indexed with Indonesia--Borneo, Celebes, 145
 - Borneo, North, or Sabah, indexed with Indonesia--Borneo, Celebes, 145
 - Brunei, indexed with Indonesia--Borneo, Celebes, 145
59. Burma
60. Byelorussian S.S.R. or Belorusskaya S.S.R. or White Russian S.S.R.
 - Cambodia, indexed with Indochina, 144
67. Cartier Island
 - Caucasus or Transcaucasia (Inclusive title), 345
 - Celebes, indexed with Indonesia--Borneo, Celebes, 145
70. Ceylon

INDEX OF COUNTRIES (CONTINUED)

72. Chagos Archipelago

76. China

77. Taiwan or Formosa

78. Christmas Island

 - Cocos-Keeling Islands or Cocos Islands, 81

81. Cocos Islands or Cocos-Keeling Islands

87. Cyprus

90. Damao or Daman

 - Delong Islands or Ostrova de-Longa, indexed with New Siberian Islands, 221

94. Diu

 - East Indies also called Indonesia (Inclusive title), 337

101. Estonia

 - Flores, indexed with Indonesia--Java, Flores, Timor, 146

 - Formosa or Taiwan, 77

110. Franz Josef Land

 - French Indochina (formerly), indexed as Indochina, 144

118. Georgian S.S.R.

122. Goa

133. Hainan

139. Hong Kong

143. India

145. Indochina (Inclusive title), formerly French Indochina. Includes Vietnam, Laos, and Cambodia.

 - Indonesia or East Indies (Inclusive title), 337

 - Indonesia, Republic of, 145 (in part), 146 (in part), 147, 148

145. Indonesia--Borneo, Celebes

146. Indonesia--Java, Flores, Timor

147. Indonesia--Moluccas

149. Indonesia--Sumatra, includes Ketulauan Riau Archipelago

150. Iran or Persia

151. Iraq or Mesopotamia

INDEX OF COUNTRIES (CONTINUED)

154. Israel

158. Japan

- Japan Islands, South (Inclusive title) 339
- Java, indexed with Indonesia--Java, Flores, Timor, 146

159. Jordan

161. Karelo-Finnish S.S.R.

- Kashmir (Inclusive title), indexed for coding purposes with Pakistan, 235

162. Kazakh S.S.R. or Turkestan

- Ketulauan Riouw Archipelago, indexed with Indonesia--Sumatra, 149

166. Kirghiz S.S.R.

167. Kolguyev Island

168. Korea

169. Kuria Muria Islands

170. Kuril Islands

171. Kuwait

172. Laccadive Islands including Aminidivi Island

- Laos, indexed with Indochina, 144

173. Latvia

174. Lebanon

180. Lithuania

- Lombok, indexed with Indonesia--Java, Flores, Timor, 146

185. Macao

- Madura Island, indexed with Indonesia--Java, Flores, Timor, 146

188. Kara Sea Islands

189. South China Sea Islands

190. Malaya

- Malaysia, includes:
 - Malaya, 190
 - Sarawak, indexed with Indonesia--Borneo, Celebes, 145
 - Sabah, indexed with Indonesia--Borneo, Celebes, 145

INDEX OF COUNTRIES (CONTINUED)

- 191. Maldivian Islands
- 194. Manchuria
 - Mesopotamia or Iraq, 151
 - Middle East (Inclusive title), 340
 - Moluccas, indexed as Indonesia--Moluccas, 147
- 207. Moldavian S.S.R.
- 209. Mongolia or Outer Mongolia
 - Mongolia (Inclusive title), 353
- 210. Mongolia, Inner
 - Muscat and Oman, 233
- 215. Nampo-Shoto Islands
 - Nansei Shoto or Ryukyu-Retto Island, 257
- 218. Nepal
- 221. New Siberian Islands, including Delong Islands or Ostrova de-Longa
- 224. Nicobar Islands
- 229. Novaya Zemlya
 - North Borneo or Sabah, indexed with Indonesia--Bornéo, Celebes, 145
 - Nuvivak Island, indexed with Bering Sea Islands, 47
- 232. Ogasawara Gunto
- 233. Oman and Muscat
 - Ostrova de-Longa or Delong Islands, indexed with New Siberian Islands, 221
 - Ostrov Belyy or Bely Island or White Island, 46
 - Outer Mongolia or Mongolia, 209
- 235. Pakistan
 - Palestine (formerly), 342, now includes Israel, 154 and Jordan, 159 (in part)
 - Persia or Iran, 150
- 242. Philippines
 - Portuguese India (formerly) (Inclusive title), 349
- 249. Qatar
- 251. Red Sea Islands

INDEX OF COUNTRIES (CONTINUED)

256. Russian Soviet Federated Socialist Republic

257. Ryukyu-Rette Islands or Nansei Shoto

- Sabah also called North Borneo, indexed with Indonesia--Borneo, Celebes, 145
- Sakhalin, including Karafuto, indexed with Russian S.F.S.R., 2
- Sarawak, now included in Malaysia, indexed with Indonesia--Borneo, Celebes, 145

270. Saudi Arabia

274. Severnaya Zemlya

276. Shantariske Islands

277. Siam (formerly), now called Thailand

280. Singapore

282. Socotra

- South Arabian Federation, formerly Aden Protectorate, 2
- South China Sea Islands, 189
- South Japan Islands (Inclusive title), 339

293. Soviet Central Asia (Inclusive title)

294. Soviet Union or U.S.S.R.

- Sumatra, indexed as Indonesia--Sumatra, 149

302. Sv. Ia

303. Tadzhik S.S.R.

- Thailand, formerly called Siam, 277
- Taiwan or Formosa, 77
- Tibet, indexed with China, 76
- Timor, indexed with Indonesia--Java, Flores, Timor, 146
- Transcaspia (Inclusive title), 354

313. Trucial States or Trucial Oman

- Turkestan or Kazakh S.S.R., 162

317. Turkey

318. Turkmen S.S.R.

321. Ukrainian S.S.R.

- U.S.S.R. or Soviet Union, 294

INDEX OF COUNTRIES (CONTINUED)

326. Uzbek S.S.R.

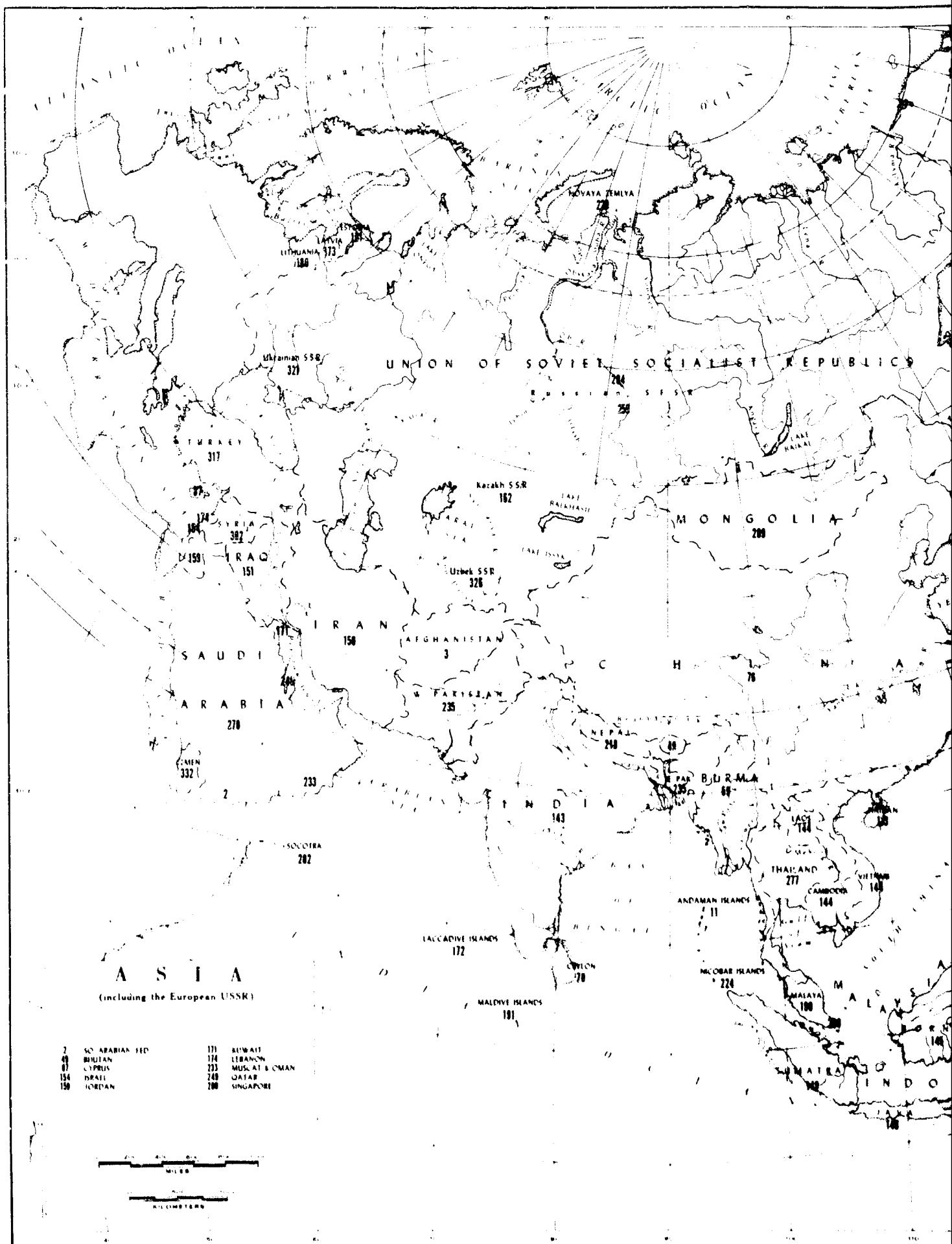
- Vietnam, indexed with Indochina, 144
- Volcano Islands, indexed with Ogasawara Gunto, 232
- White Island or Bely Island or Ostrov Belyy, 46
- White Russian S.S.R., or Byelorussian S.S.R. or Belorusskaya S.S.R., 60

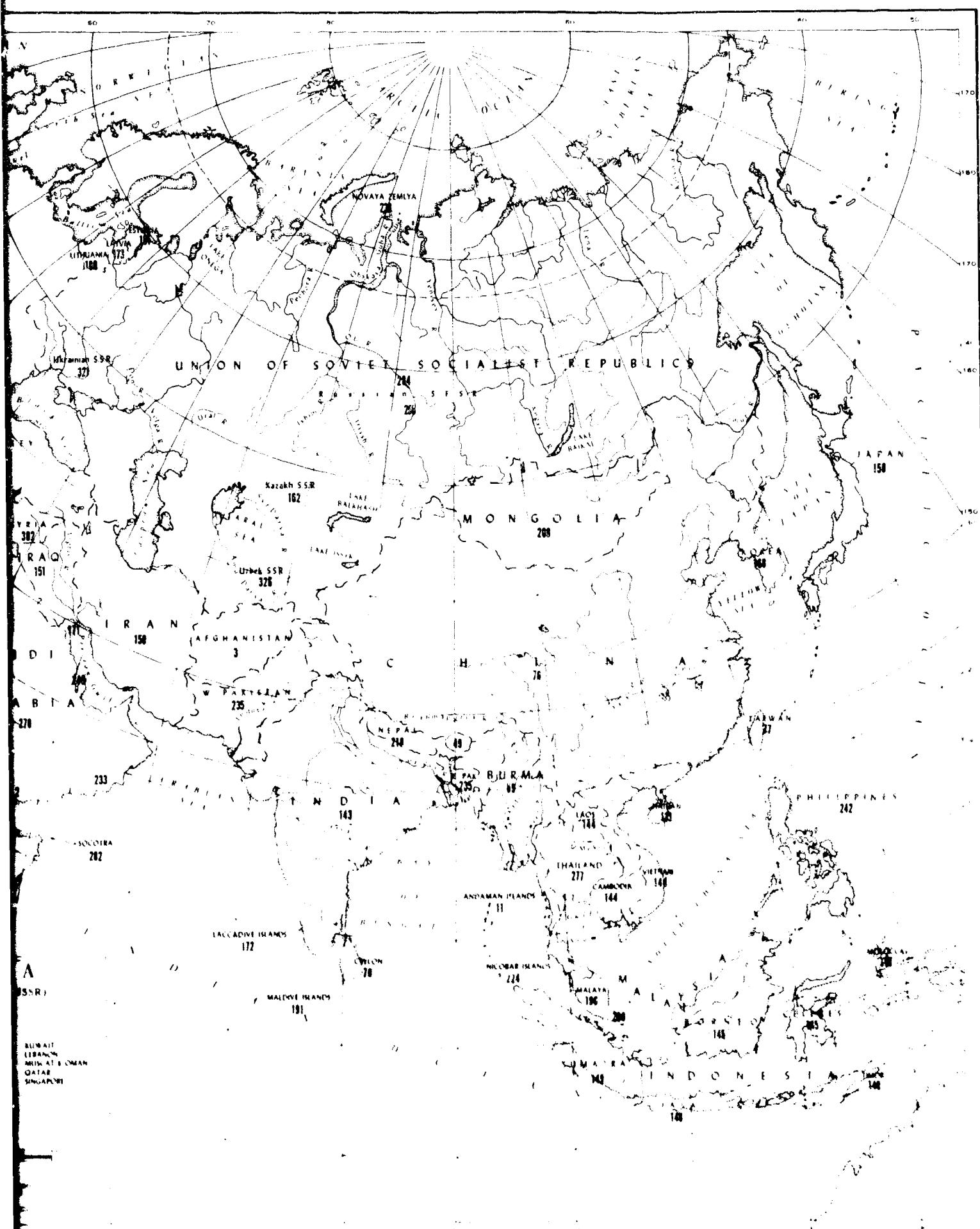
332. Yemen

* * * * *

ADDENDA:

- 337. East Indies or Indonesia (Inclusive title)
- 339. South Japan Islands (Inclusive title)
- 340. Middle East (Inclusive title)
- 342. Palestine (formerly), now includes Israel, 154 and Jordan, 159 (in part)
- 345. Transcaucasia or Caucasus (Inclusive title)
- 349. Portuguese India (formerly) (Inclusive title)
- 350. Asia Minor (Inclusive title)
- 353. Mongolia (Inclusive title)
- 354. Transcaspia (Inclusive title)
- 366. Bengal (Inclusive title)





B. BLACK FLIES

The black fly entries include little on biology. No disease transmission was recorded. Most of the recorded information is on distribution. In the table are listed 228 species or subspecies.

TABLE 1 - BLACK FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ASTEGA lanata</i> Takahasi	---; ---; 194	Takahasi	1940
<i>BOOPHITHORA erythrocephala</i> (De Geer)	---; ---; 60°, 162, 294. Forest streams, seldom in rivers; ---; 256°	Ussova	1961
<i>BYSSODON transiens</i> (Rubtzov)	Fast rivers with rocks and vegetation; June-July; 256	Ussova	1961
<i>CNEPHIA kariyai</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>lanta</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>lapponica</i> (Enderlein)	---; ---; 30. On rock face of fast flowing rivers; May and June; 256. ---; April; 321	Ussova	1961
<i>pallipes</i> (Fries)	Mountain and foothill rivers with rocky bottom; ---; 256	Ussova	1961
<i>trigonia</i> (Lundström)	---; ---; 256	Ussova	1961
<i>EUSIMULIUM angustitarse</i> (Lundström)	---; ---; 256, 294	Ussova	1961
<i>annulatum</i> (Lundström)	Fast cold rivers with rocks and water plants; ---; 256	Ussova	1961
<i>tureum</i> Fries	Slow and clean warm waters, sometimes dirty streams; ---; 72, 256	Ussova	1961
	---; ---; 194	Barnett & Toshioka	1951
<i>belitukovae</i> Rubtzov	Cold, clean and shaded spring streams with sand and silt bottom; ---; 256 (Bites man)	Ussova	1961
<i>bicornis</i> (Dorogustajski & Rubtzov)	Clean lake, mud, spring, streams, small mountain rivers with rocky bottom; ---; 256 (Bites man)	Ussova	1961
<i>bicornis</i> (Dorogustajski, Rubtzov & Vlasenko)	---; ---; 194, 256	Barnett & Toshioka	1951

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>EUSIMULIUM</i> <i>boninense</i> Shiraki	---; ---; 257	Shiraki	1935
<i>erassum</i> (Rubtzov)	Small mud streams with rocks and water plants; Aug.; 256	Ussova	1961
<i>dogieli</i> (Ussova)	Mud streams with rocky bottom; July; 256	Ussova	1961
<i>falco</i> Shiraki	---; ---; 158	Shiraki	1935
<i>fontinale</i> (Rubtzov)	Fast moving mountain streams with rocky bottom; June; 256	Ussova	1961
<i>genitale</i> Shiraki	---; ---; 77°	Shiraki	1935
<i>hololeucis</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>kalidumphi</i> Takahasi	---; ---; 196	Barnett & Toshioka	1951
<i>latifrons</i> Ruttzov	Warm moving waters, attached to rocky bottom; ---; 256. ---; ---; 294	Ussova	1961
<i>latifrons</i> (Meigen)	---; ---; 194, 256, 345 (Near springs)	Barnett & Toshioka	1951
	Mud streams, lake, spring, small rivers with rocks; May; 256°, 294°	Ussova	1961
<i>lentifer</i> Ussova	Slow flowing cold water; May; 256	Ussova	1961
<i>longimanum</i> (Zetterstedt)	River with rocky bottom; July-Aug.; 72. 256	Ussova	1961
<i>luteum</i> Shiraki	---; ---; 77°	Shiraki	1935
<i>maculatum</i> (Rubtzov)	Big fast flowing rivers and clear water with rocky bottom. July-Aug.; 256°	Ussova	1961
<i>melanura</i> <i>kindi</i> Takahasi	---; ---; 194	Takahasi	1940
<i>melodus</i> <i>terrapinaceus</i> (Wahlberg)	Cold and clean small river, mountain streams with rocks and moss bottom; ---; 256	Ussova	1961

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HELODON</i> <i>jezonium</i> (Matsumura)	---; ---; 158°	Kono & Takahasi	1940
<i>sapporoensis</i> Shiraki	---; ---; 158	Shiraki	1935
<i>NEVERMANNIA</i> <i>brinetti</i> Enderlein	---; ---; 143	Enderlein	1934
<i>ODAGMIA</i> <i>bidentata</i> Shiraki	---; ---; 158	Shiraki	1935
<i>frigida</i> (Rubtzov)	River with vegetations, rivulets with warm water and seldom in reservoirs; ---; 256	Ussova	1961
<i>halonensis</i> Takahasi	---; ---; 194	Takahasi	1940
<i>iwataensis</i> Shiraki	---; ---; 158°, 256°	Kono & Takahasi	1940
	---; ---; 158	Shiraki	1935
<i>japonica</i> Shiraki	---; ---; 158	Shiraki	1935
<i>karenkoensis</i> Shiraki	---; ---; 77	Shiraki	1935
<i>kiritschenkoi</i> Rubtzov	---; ---; 28	Tetterjan	1957
<i>monticola</i> (Friederick)	Cold streams; ---; 256, 345	Ussova	1961
<i>oitaana</i> Shiraki	---; ---; 158	Shiraki	1935
<i>omata</i> (Meigen)	---; ---; 158, 162, 294. Lake streams and rivers; active in June and July; 256	Ussova	1961
	---; ---; 256°	Kono & Takahasi	1940
<i>rotundata</i> Rubtzov	Small streams and rivulets; ---; 256	Ussova	1961
<i>PROSIMULIUM</i> <i>alpestre</i> Dorogustajski, Rubtzov & Vlasenko	---; ---; 256	Anonymous	1945a
<i>ferrugineum</i> Wahlberg	---; ---; 256	Rubtzov	1940

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PROSIMULIUM</i> <i>hirtipes</i> (Fries)	---; ---; 194, 256 (Near springs and streams, attacks man severely)	Barnett & Toshioka	1951
	Mountains and rivers with no vegetation, fast streams; ---; 256°	Ussova	1961
<i>hirtipes</i> <i>tridentatum</i> (Fries)	---; ---; 256	Anonymous	1945a
<i>krantschaticum</i> Rubtzov	---; ---; 256	Anonymous	1944
<i>krantschaticum</i> <i>irritans</i> (Rubtzov)	---; ---; 256	Anonymous	1945
<i>ki.toense</i> Shiraki	---; ---; 158	Shiraki	1935
<i>laceropyga</i> (Lundström)	Spring rivulet, mountain streams, rivers, leaves and rocks; ---; 256	Ussova	1961
<i>jezoense</i> Shiraki	---; ---; 158°	Kono & Takahasi	1940
	---; ---; 158	Shiraki	1935
<i>luteum</i> <i>colombianum</i> Fabricius	---; ---; 256	Ussova	1961
<i>ALBONAUERIA</i> <i>mittellae</i> Enderlein	In fast flowing water; ---; 256°	Bening	1924
	---; ---; 294	Enderlein	1920
<i>pusillum</i> (Fries)	Large and small rivers, smooth and fast flowing waters; July; 60, 256	Ussova	1961
<i>australe</i> (Rubtzov)	Smooth and slow flowing waters with vegetation; ---; 256	Ussova	1961
<i>IMMELIA</i> <i>lutea</i> Meigen	---; ---; 256	Ussova	1961
<i>IMMELIA</i> <i>guttulata</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>angustitarsis</i> Lundström	---; ---; 77	Shiraki	1935
	---; ---; 101	Dampf	1924
	---; ---; 255	Anonymous	1945a

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM annulipes</i> Shiraki	---; ---; 158, 256	Shiraki	1935
<i>arencae</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>argentipes</i> Edwards	---; ---; 190	Edwards	1928
<i>argenteum</i> Meigen	---; ---; 101	Dampf	1924
	Large and small rivers, warm and slow flowing waters, rivulets, rocks and vegetations; ---; 256. ---; June; 294	Ussova	1961
<i>argenteum</i> de Meijere	Grass in rapid streams; ---; 146, 149	Edwards	1934
	---; ---; 337	Puri	1932
<i>aristum</i> Shiraki	---; ---; 77	Shiraki	1935
<i>atratum</i> de Meijere	---; ---; 146	Edwards	1934
	---; ---; 190	Edwards	1928
<i>barbiger</i> Brunetti	---; ---; 70	Edwards	1928
	Small streams with vegetation, stagnant water; ---; 143, 235	Puri	1933b
	Channel in rice field; ---; 146, 149	Edwards	1934
<i>barbi</i> Fries	---; ---; 101	Dampf	1924
	Streams; ---; 143	Puri	1933b
	---; irritating bite, prefers to obtain blood from a number of punctures; 154 ^a	Buxton	1924
	---; June; 256 ^a	Oleney	1945
	---; ---; 256	Rubtzov	1940
<i>barbiger</i> Edwards	Fast flowing warm water, large river bottom with vegetation and rocks; ---; 60, 256	Ussova	1961
<i>barbiger</i> Delfinado	---; ---; 242	Delfinado	1960
<i>barbiger</i> Delfinado	---; ---; 242	Delfinado	1960

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>barraudi</i> Puri	Streams; ---; 143, 235	Puri	1932c
<i>butoense</i> Edwards	Small and not very rapid streams; ---; 146	Edwards	1934
<i>beckeri</i> Roubaud	---; ---; 342	Edwards	1923
<i>bianchii</i> Rubtsov	---; ---; 256	Anonymous	1945a
<i>bicornis</i> Dorogustajski & Rubtsov	---; ---; 256	Anonymous	1945a
<i>bicornis</i> Dorogustajski & Rubtsov	---; ---; 256	Rubtsov	1940
<i>bipunctatum</i> Austen	---; May-June, common after sunrise; 151	Austen	1923
<i>buylakovi</i> Rubtsov	---; ---; 256	Anonymous	1945a
<i>cygnetinum</i> Enderlein	---; ---; 190	Edwards	1928
<i>cholodkowskii</i> Rubtsov	Found on grass and stones in rivers; June-July, 256°	Rubtsov	1940
	---; on vegetation; 256	Detinova & Bel'Tyukova	1958
<i>hirtistapharsi</i> Puri	Streams; ---; 143, 235	Puri	1932b
<i>tenacimilia</i> Puri	Mill-stream, river, stream; ---; 143	Puri	1932
<i>notatum</i> Friedrichs	Streams and rivers of moderate speed; severe bloodsucker; 256°	Edwards et al	1939
	---; ---; 256	Rubtsov	1940
	---; ---; 345	Pronevich	1945
<i>curvifurcata</i> Rubtsov	---; ---; 256	Anonymous	1944
<i>decinatum</i> Dorogustajski, Rubtsov & Nasenko	---; ---; 256	Rubtsov	1940

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>dentatum</i> Puri	Hill streams; ---; 143	Puri	1932c
<i>dershavini</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>deserticola</i> (Rubtzov)	---; ---; 256	Anonymous	1944a
<i>digitatum</i> Puri	Streams; ---; 143	Puri	1932c
<i>digrammicum</i> Edwards	---; ---; 190, 277	Edwards	1928
<i>diversipes</i> Edwards	---; ---; 146	De Meillon	1930
<i>duodecimatum</i> (Rubtzov)	---; ---; 256	Anonymous	1945a
<i>edwardsianum</i> Gibbins	---; ---; 256	Anonymous	1945a
<i>ephemerophilum</i> Rubtzov	In rivers, on larvae of <i>Ephemerella</i> ; ---; 162	Grenier & Mouchet	1959
<i>equinum</i> (Linnaeus)	Below surface of water; ---; 76	Patton	1926
	---; ---; 101	Dampf	1924
	---; ---; 154	Austen	1921
	---; ---; 256	Anonymous	1945a
	---; ---; 342	Edwards	1923
<i>equinum</i> var. <i>mediterraneum</i> Puri	Streams with grass; ---; 143. Submerged grass in irrigation channel, river and stream on stones; ---; 235	Puri	1933b
	---; ---; 345	Rubtzov	1940
<i>erythrocephalum</i> (De Geer)	---; ---; 256	Anonymous	1944a
<i>eximium</i> de Meijere	---; ---; 146	Edwards	1934
	---; ---; 190	Edwards	1928
	---; ---; 337	Puri	1932

TABLE I - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>fenestratum</i> Edwards	Forest streams; ---; 149	Edwards	1934
<i>ferganica</i> Rubtzov	---; ---; 345	Rubtzov	1940
<i>ferrugineum</i> Wahlberg	---; ---; 256	Ussova	1961
<i>feuerborni</i> Edwards	Streams; ---; 146	Edwards	1934
<i>flavipes</i> Austen	---; ---; 159	Austen	1921
<i>flavoantennatum</i> (Rubtzov)	---; ---; 256	Anonymous	1945a
<i>flavocinctum</i> Edwards	Forest stream; ---; 149	Edwards	1934
<i>forbesi</i> Malloch	---; ---; 256	Ussova	1961
<i>fridolini</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>friederichsi</i> Edwards	---; ---; 146	Edwards	1934
<i>fuscopilosum</i> Edwards	---; ---; 190	Edwards	1928
<i>galeratum</i> Edwards	---; river; 256°	Detinova & Bel'Tyukova	1958
<i>gravelyi</i> Puri	Stream; ---; 143	Puri	1933
<i>griseifrons</i> Brunetti	Streams, falls; ---; 143, 235	Puri	1932c
	---; ---; 190	Edwards	1928
<i>grisescens</i> Brunetti	---; ---; 70	Senior-White	1922
	Streams; ---; 143	Puri	1932
	---; ---; 190	Edwards	1928
<i>grisescens</i> <i>palmatum</i> Puri	Streams; ---; 143	Puri	1932
<i>gurmeyae</i> Senior-White	Streams; ---; 143	Puri	1932a

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>hackeri</i> Edwards	---; in mountains; 190, 277	Edwards	1928
<i>halonensis</i> Takhasi	---; ---; 194	Barnett & Toshioka	1951
<i>himalayense</i> Puri	Small streams, hills; ---; 143	Puri	1932a
<i>hirtinervis</i> Edwards	---; ---; 190	Edwards	1928
<i>hirtipannus</i> Puri	---; ---; 143	Puri	1932
<i>hirtipes</i> Fries	Cold and clean waters in mountain-like areas; ---; 256 ---; ---; 256° (In rapid hill streams; on large stones or rocky bottom)	Ussova	1961
	---; ---; 342	Edwards et al.	1939
<i>howletti</i> Puri	---; ---; 143	Bodenheimer	1937
<i>indicum</i> Becker	---; ---; 143°	Puri	1932
	---; ---; 190	Brunetti	1917
<i>iridescens</i> de Meijere	Forest streams; ---; 146, 149	Edwards	1934
	---; ---; 190	Edwards	1928
<i>ishikawai</i> Takahasi	---; ---; 194	Takahasi	1940
<i>jacuticum</i> (Rubtzov)	---; ---; 256	Anonymous	1945a
<i>japonicum</i> Matsumura	---; ---; 158, 170, 256	Kono & Takahasi	1940
<i>kariyai</i> Takahasi	---; ---; 194	Hsiao	1946
<i>kashmiricum</i> Edwards	---; ---; 235°	Edwards	1927
<i>katoi</i> Shiraki	---; ---; 77	Shiraki	1935
<i>kertessi</i> Enderlein	---; ---; 101	Dampf	1924

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>kerteszi</i> <i>melanohrachium</i> Dampf	---; ---; 101	Dampf	1924
<i>koidzumi</i> Takahasi	---; ---; 194	Hsiao	1946
<i>lanata</i> Takahasi	---; ---; 194	Hsiao	1946
<i>latipes</i> Meigen	---; June; 256° ---; ---; 256 ---; ---; 342 ---; ---; 345	Olenev Rubtzov Bodenheimer Pronevich	1945 1940 1937 1945
<i>latipes</i> var. <i>tjibodense</i> Edwards	---; ---; 146	Edwards	1934
<i>latipes</i> var. <i>tosariense</i> Edwards	---; ---; 146	Edwards	1934
<i>latistriatum</i> Senior-White	---; ---, 143 ---; ---; 190	Senior-White Edwards	1922 1928
<i>lineatum</i> Puri	Streams; ---; 143	Puri	1932c
<i>lineothorax</i> Puri	---; ---; 143	Puri	1932
<i>lyra</i> (Lundström)	---; ---; 256	Anonymous	1945a
<i>maculatum</i> Meigen	Submerged vegetation in not too strong current; ---; 256 ---; islands in river, June; 256°	Bening Olenev	1924 1945
<i>maculatum</i> <i>ussurianum</i> Rubtzov	---; ---; 256	Blagoveshchenskii	1940
<i>malyshovi</i> Dorogustajski & Rubtzov	---; ---; 256	Rubtzov	1940
<i>matthiesseni</i> Enderlein	---; islands in river, June; 256°	Olenev	1945

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>melanopus</i> Edwards	---; ---; 242	Delfinado	1960
<i>metatarsale</i> (Brunetti)	---; ---; 143, 146	Edwards	1934
	---; ---; 190	Edwards	1928
<i>minutum</i> Shiraki	---; ---; 77	Shiraki	1935
<i>montanum</i> Rubtzov	---; ---; 345	Pronevich	1945
<i>monticola</i> , Friedrichs	---; ---; 345	Rubtzov	1940
<i>morsitans</i> Edwards	---; ---; 194, 256 (Bites man)	Barnett & Toshioka	1951
	Warm waters, small and large clean, slow-flowing rivers; July-Aug.; 256. ---; ---; 294	Ussova	1961
<i>murmanum</i> Enderlein	---; ---; 256	Enderlein	1935
<i>nebulicola</i> Edwards	---; ---; 146	Edwards	1934
<i>nikkoense</i> Shiraki	---; ---; 158	Shiraki	1935
<i>nilgiricum</i> Puri	---; ---; 143	Puri	1932a
<i>nipponense</i> Shiraki	---; ---; 158	Kono & Takahasi	1940
	---; ---; 158	Shiraki	1935
<i>nitidithorax</i> Puri	---; ---; 143	Puri	1933a
<i>nobile</i> de Meijere	---; at light; 146	Edwards	1925
	---; ---; 149	Edwards	1934
	---; ---; 190	Edwards	1928
<i>nodosum</i> Puri	---; ---; 143	Puri	1933a
<i>nölli</i> Friedrichs	---; ---; 194	Barnett & Toshioka	1951
	Warm streams and rivulets with rocky bottom; ---; 256. ---; ---; 294 (Bites man)	Ussova	1961

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>novolineatum</i> Puri	---; ---; 143	Puri	1933a
<i>omorii</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>ornatum</i> Meigen	---; ---; 101 ---; ---; 143 ---; June; 256° ---; ---; 256	Dampf Puri Olenev Rubtzov	1924 1932 1945 1940
<i>ornatum</i> <i>caucasicum</i> Rubtzov	In clear water; ---; 256 ---; ---; 345	Pronevich Rubtzov	1945 1940
<i>oshimanum</i> Shiraki	---; ---; 158	Shiraki	1935
<i>pallidum</i> Puri	Small streams, rivers; ---; 143	Puri	1932
<i>pallipes</i> Meigen	---; ---; 256 ---; ---; 345	Ussova Rubtzov	1961 1940
<i>palmense</i> Puri	Streams; ---; 143	Puri	1933
<i>paraequinum</i> Puri	---; ---; 28 Stream; ---; 235	Crosskey Puri	1962 1933b
<i>paramoneitana</i> Rubtzov	Warm and fast flowing water, river bottom with vegetations; ---; 60, 256, 321	Ussova	1961
<i>pattoni</i> Senior-White	---; ---; 70 ---; ---; 143 ---; ---; 190	Puri Senior-White Edwards	1932 1922 1928
<i>philippinensis</i> Delfinado	---; ---; 242	Delfinado	1960
<i>popwae</i> Rubtzov	---; ---; 345	Rubtzov	1940
<i>pseudonearticum</i> (Rubtzov)	---; ---; 256	Anonymous	1944
<i>pulchripes</i> Austen	River bed; ---; 317	Austen	1925

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>pusillum</i> Fries	---; Aug.; 256	Breev	1950
<i>ramosum</i> Puri	---; ---; 143	Puri	1932b
<i>relictum</i> Rubtzov	---; ---; 256	Rubtzov	1940
<i>reptans</i> Linnaeus	---; ---; 28 ---; ---; 194°	Popoff Barnett & Toshioka	1924 1951
	---; ---; 194	Takahasi	1940
	Fast flowing clean rivers; ---; 256, 294 (Bites man)	Ussova	1961
<i>reptans</i> var. <i>syriaca</i> Roubaud	---; ---; 342	Bodenheimer	1937
<i>rufibasis</i> Brunetti	Streams, rivers; ---; 143 ---; ---; 190	Puri Edwards	1932b 1928
<i>rufibasis</i> <i>fasciatum</i> Puri	Streams; ---; 143 Hill stream; ---; 235	Puri	1932b
<i>ruficorne</i> Macquart	---; ---; 342	Van Someren	1944
<i>rufithorax</i> Brunetti	---; ---; 190	Edwards	1928
<i>senile</i> Brunetti	---; ---; 143 ---; ---; 190	Brunetti Edwards	1917 1928
<i>septentrionale</i> Enderlein	---; ---; 256	Enderlein	1935
<i>sericeatum</i> Meigen	---; ---; 101	Dampf	1924
<i>shuvjakovi</i> Dorogustajski & Rubtzov	---; ---; 256	Rubtzov	1940
<i>sibiricum</i> Enderlein	---; ---; 256	Anonymous	1945a

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM similis</i> Rubtzov	In streams; ---; 256	Rubtzov	1940
<i>splendidum</i> Rubtzov	---; ---; 194, 256	Barnett & Toshioka	1951
<i>stevensonii</i> Edwards	---; ---; 235	Edwards	1927
<i>striatum</i> Brunetti	---; ---; 70, 143	Puri	1932
	---; ---; 190	Edwards	1928
	---; ---; 349	De Mello & Afonso	1921
<i>submorsitans</i> (Seguy)	---; ---; 256	Anonymous	1945a
<i>subornatum</i> Edwards	---; ---; 256	Rubtzov	1940
<i>subpusillum</i> (Fries)	---; ---; 256	Anonymous	1945a
<i>subvariegatum</i> Rubtzov	---; ---; 256	Rubtzov	1940
<i>surdaicum</i> Edwards	Small stream; ---; 146, 149	Edwards	1934
<i>tamograeckii</i> Rubtzov	---; April-June; 35	Abusalimov	1947
	---; ---; 345	Rubtzov	1940
<i>tenuitarsus</i> Puri	Stream; ---; 143	Puri	1923
<i>terminassjanae</i> Rubtzov	---; ---; 345	Pronevich	1945
<i>chienshanum</i> Edwards	---; ---; 146	Edwards	1934
<i>transbaicalicus</i> Rubtzov	---; ---; 256	Rubtzov	1940
<i>transcaspium</i> Enderlein	---; ---; 345	Enderlein	1920
<i>transiens</i> Rubtzov	---; ---; 256	Rubtzov	1940

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>truncatum</i> Lundström	Warm waters, small and large streams, rivulets, bottom rocks and plants; June; 256. ---; ---; 294 (Bites man)	Usova	1961
<i>tuberosum</i> (Lundström)	Small and large fast flowing warm rivers, streams with vegetation and rocky bottom; ---; 256 (Bites man)	Usova	1961
	---; Aug.; 256	Breev	1950
<i>tuberosum</i> <i>polare</i> Lundström	---; ---; 256	Anonymous	1945a
<i>tuberosum</i> <i>vulgaris</i> Dorogustajski & Rubtzov	---; ---; 256	Rubtzov	1940
<i>varicolore</i> Seguy	---; ---; 342	Bodenheimer	1937
<i>varicorne</i> Edwards	Forest stream; ---; 146, 149 ---; in house; 149 ---; ---; 190	Edwards	1934 1925 1928
<i>variegatum</i> Meigen	---; ---; 345	Pinevich	1945
<i>varitum</i> Meigen	---; ---; 342	Bodenheimer	1937
<i>venustum</i> Say	---; ---; 158°, 256° ---; June; 256	Kono & Takahasi Olenev	1940 1945
<i>venustum</i> Swartz Edwards	---; ---; 256	Anonymous	1945
<i>venustum</i> Kintsch-Philipi Ruztsov	---; ---; 256	Anonymous	1944
<i>yakotense</i> Shiraki	---; ---; 158	Shiraki	1935
<i>zonalis</i> Ruztsov	---; April-June; 33	Abusalimov	1947
<i>zonalis</i> Edwards	Forest stream; ---; 149	Edwards	1934

TABLE 1 - BLACK FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STEGOPTERNA</i> <i>richteri</i> Enderlein	Shallow rivulets with bed channel covered with small rocks or silt; ---; 256	Usova	1961
<i>STILBOPLAGA</i> <i>equinum</i> Linnaeus	---; occasionally bites man; 158°	Shiraki	1935
<i>S-striatum</i> Shiraki	---; ---; 77, 158	Shiraki	1935
<i>TITANOPTERYX</i> <i>koidzumii</i> Takahasi	---; ---; 194	Takahasi	1940
<i>WILHELMIA</i> <i>equina</i> (Linnaeus)	Large and small rivers, smooth and fast flowing water with vegetation; ---; 256. ---; ---; 294 (Bites man)	Usova	1961
<i>paraequina</i> Puri	---; ---; 28	Terterjan	1957

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C. SAND FLIES

The sand fly entries include a few species of Psychodinae which do not bite but may be pests of man, often causing allergic reactions. Little is to be found in the literature on the biology and disease transmissions of these species. Most of the data are distributional records.

The tables include 166 species or subspecies most of which are in the large genus *Phlebotomus*.

TABLE 1 - SAND FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PERICONA</i>			
<i>margininotata</i> Brunetti	---; ---; 143	Brunetti	1917
<i>margininotata</i> var. <i>bella</i> Brunetti	---; ---; 143	Brunetti	1917
<i>metatarealis</i> Brunetti	---; ---; 143	Brunetti	1917
<i>metatarealis</i> var. <i>krastensis</i> Senior-White	---; ---; 143	Senior-White	1922
<i>mixta</i> Brunetti	---; ---; 143	Brunetti	1917
<i>spinicornis</i> Brunetti	---; ---; 143	Brunetti	1917
<i>PHLEBOTOMUS</i>			
<i>africana</i>	---; ---; 143, 342	Theodor	1948
<i>asiatica</i> (Theodor)	---; ---; 154	Pringle	1953
<i>africanus</i> Newstead	---; ---; 143	Sinton	1932 a
	---; ---; 154, 159	Adler & Theodor	1929
	---; ---; 326	Khodukin	1929
	---; ---; 342	Adler & Theodor	1927
<i>alexandri</i> Sinton	---; ---; 31	Theodor	1948
	---; ---; 143, 317	Theodor	1947
	---; ---; 151°, 154	Pringle	1953
	---; caves, ruins; 162	Grebel'skii	1939
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; enters houses; 318	Petrishcheva	1936
<i>angustipennis</i> de Meijere	---; ---; 146	Sinton	1928
<i>annandalei</i> Sinton	---; ---; 70	Sinton	1924 a
	---; enters houses, Feb.; 143	Sinton	1923

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS antennatus</i> Newstead	---; July-Aug., enters houses; 70 ---; ---; 143	Carter & Antonipulle	1949
<i>arboris</i> Sinton	---; ---; 70 Tree holes; ---; 143	Theodor	1948
<i>argentipes</i> Annandale & Brunetti	---; warm moist climate up to 4,000 feet altitude, suspected carrier of Kala-azar; 59, 143 ---; enters houses, July, Aug. and Jan.; 70 ---; active all year; 70, 143 ---; ---; 70 (Bites man). ---; carrier of <i>Leishmania</i> ; 143	Sinton	1932 a
	Sides of reservoirs, in soil sheltered from sun by thick vegetation; enters houses; 143	Smith et al.	1936
	Debris near houses; rare Dec.-Feb.; 143	Shortt et al.	1930
	---; transmits visceral Leishmaniasis by crushing and occasionally by bite; 143*	Adler	1929
	---; naturally infected with <i>Leishmania donovani</i> , experimentally infected with Kala-azar; 143	Shortt et al.	1927
	---; experimentally infected with <i>Leishmania donovani</i> and <i>L. tropica</i> ; 143	Napier	1930
	---; suspected vector of visceral Leishmania; 143. ---; April; 144	Raynal & Gaschen	1935 d
	---; experimental transmission of Kala-azar; 143	Shortt & Swaminath	1928
	---; in stables; 143	Christophers et al.	1925
	---; Apr.-June; 143	McCombie Young	1927
	---; Mar.-Nov.; 143	Shortt	1945
<i>argentipes marginatus</i> Annandale	---; ---; 70, 143	Sinton	1924 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>babu</i> Annandale	---; ---; 143°	Smith et al.	1936
	---; ---; 143	Sinton	1932 a
	---; ---; 235	Roy & Brown	1954
<i>babu</i> var. <i>niger</i> Annandale	---; ---; 143	Sinton	1932 a
<i>baghdadis</i> Adler & Theodor	---; ---; 143, 235	Roy & Brown	1954
	---; ---; 151	Adler & Theodor	1929
<i>bailyi</i> Sinton	---; enters houses; 143. ---; ---; 235	Sinton	1931 a
<i>bailyi</i> <i>campester</i> Sinton	---; ---; 76, 133. ---; plains; 143. ---; wooded rolling country, at altitudes of 20-130 meters, enters houses, abandoned buildings and ruins; 144	Dicke & Hsiao	1946
	---; plains, hilly regions; 144	Gaschen & Nguyen-Nguyen	1938
	---; enters houses; 277	Sinton	1931
<i>barraudi</i> Sinton	---; ---; 59, 143	Hsiao	1945
	---; enters houses, on man; 76°. ---; in low regions, in altitudes of 3,900-5,200 feet, near dwellings; 144°	Raynal	1936
	---; August; 76. ---; May-June; 144	Raynal & Gaschen	1935
	---; ---; 133, 144 (Found almost exclusively at high altitudes)	Dicke & Hsiao	1946
<i>barraudi</i> var. <i>kwangsiensis</i> Yao & Wu	---; ---; 76, 133	Dicke & Hsiao	1946
<i>barraudi</i> var. <i>siamensis</i> Causey	---; ---; 143, 144, 277 (Cool moist soil rich with decaying matter, enters houses)	Causey	1938
<i>bigtii</i> Manalang	---; ---; 242	Manalang	1931
<i>borovskii</i> (Chodukin & Sofieff)	---; ---; 31	Chodukin & Sofieff	1931

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS bukidnoniae</i> Quate	---; tree holes; 242	Quate	1965
<i>caucasicus</i> Marzinowsky	---; ---; 3, 162, 326, 345. ---; bites day and night, indoors and outdoors, experimentally infected with <i>Leishmania tropica</i> ; 150°	Adler et al.	1930
	---; ---; 28	Burakova & Mirzayan	1934
	---; ---; 31	Chodukin & Sofieff	1931
	Dark, damp places with decomposing organic matter; June-Nov.; 118	Kamalow	1934
	---; caves and ruins; 162	Grebel'skii	1939
	---; enters houses; 166°	Petrishcheva & Aluimov	1940
	---; ---; 303°	Shchurenkova	1937
	---; ---; 317	Anonymous	1944
	---; ---; 321	Nasonov	1929
<i>chalam</i> Young & Chalam	---; ---; 143	McCombie Young & Chalam	1927
<i>chinensis</i> Newstead	---; ---; 28	Burakova & Mirzayan	1934
	---; ---; 31	Chodukin & Sofieff	1931
	---; ---; 35	Perfil'ev & Gutzevich	1935
	---; experimentally infected with flagellates, naturally infected with and vector of <i>Leishmania donovani</i> , May-Sept., enters houses; 76°. ---; experimentally infected with flagellates; 144	Dicke & Hsiao	1946
	---; naturally infected with flagellates, in houses, May-July; 76°	Yuan	1939
	---; experimental transmission of <i>Leishmania donovani</i> ; 76	Hindle	1931
	---; carrier of <i>Leishmania donovani</i> ; 76	Rey & Brown	1954
	---; naturally infected with <i>Wuchereria bancrofti</i> , in houses; 76	Hsiao	1943

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS chinensis</i> Newstead (cont.)	---; ---; 76, 194 (Attacks man)	Barnett & Toshioka	1951
	Dark, damp places with decomposing organic matter; June-Nov.; 118	Kamalow	1934
	---; ---; 143, 345	Sinton	1928
	---; enters houses, in cracks and crevices; 154	Jacusiel	1947
	--- ---; 162, 302, 326, 342. ---; restricted to highlands, rare; 150	Adler et al.	1930
	---; June-Aug.; 162°	Andreev	1943
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; ---; 174	Adler & Theodor	1929
	---; ---; 194*	Anonymous	1946
	---; ---; 317	Anonymous	1944
	---; ---; 321	Artemenko	1945
	---; ---; 326	Perfil'ev	1931
<i>chinensis longiductus</i> Nitzulescu	---; ---; 150, 256, 302	Dicke & Hsiao	1946
	---; ---; 303°	Shchurenkova	1937
	---; ---; 326	Theodor	1948
<i>chinensis simici</i> Nitzulescu	---; ---; 150, 154	Pringle	1953
	---; ---; 342	Theodor	1948
<i>christophersi</i> Sinton	---; ---; 143	Sinton	1932 a
<i>clypei</i> Sinton	---; ---; 143	Sinton	1932 a
	---; enters houses; 235	Sinton	1928
	---; ---; 303	Shchurenkova	1941
<i>culabaensis</i> Young & Chalam	---; ---; 143	Sinton	1928
<i>crimicus</i> Shtefko & Minkevich	---; ---; 256*	Shtefko & Minkevich	1923

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)		AUTHOR	DATE
<i>PHLEBOTOMUS</i>				
<i>dapsilidentes</i> Quate	---; in forest; 242		Quate	1965
<i>daycensis</i> Manalang	---; ---; 242		Manalang	1931
<i>delfinadoae</i> Quate	---; tree holes; 242		Quate	1965
<i>demeijerei</i> Nitzulescu	---; ---; 143		Sinton	1933
	---; ---; 146		Nitzulescu	1930
<i>dentaceus</i> Quate	---; under loose tree bark; 242		Quate	1965
<i>dentatus</i> Sinton	---; ---; 1/3, 162		Theodor	1948
	---; ---; 235		Sinton	1933 a
<i>duboscqui</i> Neveu-Lemaire	---; ---; 28		Sinton	1928
	---; ---; 162		Popov	1929
<i>eadithae</i> Sinton	---; ---; 143		Sinton	1932
<i>leanorae</i> Sinton	---; enters houses; 143		Sinton	1931 a
<i>erebicolor</i> Quate	---; bat-inhabited limestone cave; 242		Quate	1965
<i>exastis</i> Quate	---; malaise trap, tree holes; 242		Quate	1965
<i>franciscanus</i> Quate	---; tree holes; 242		Quate	1965
<i>grekovi</i> Khodukin	---; ---; 31, 326		Chodukin & Sofieff	1931
	---; caves and ruins; 162		Grebelskii	1939
	---; enters houses; 166		Petrishcheva & Aluimov	1940
	---; enters houses; 318		Petrishcheva	1936

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>heisleri</i> Manalang	---; ---; 242	Manalang	1930
<i>himilagensis</i> Annandale	---; ---; 70, 143	Sinton	1924 a
<i>hitchensi</i> Manalang	Tree holes; Oct.; 242	Manalang	1930
	---; in forests; 242	Quate	1965
<i>hivernus</i> Raynal & Gaschen	---; ---; 144	Raynal & Gaschen	1935 c
<i>hodgsoni</i> Sinton	---; ---; 143	Theodor	1948
	---; ---; 151	Pringle	1953
	---; enters houses; 235	Sinton	1933 b
<i>hospitii</i> Sinton	---; ---; 143	Sinton	1933
<i>imitor</i> Quate	---; under loose tree bark; 242	Quate	1965
<i>iraqi</i> Adler & Theodor	---; ---; 151	Adler & Theodor	1979
<i>iyengari</i> Sinton	---; ---; 143	Sinton	1933 c
	---; March; 144	Raynal & Gaschen	1935 b
<i>iyengari</i> var. <i>hainanensis</i> Yao & Wu	---; ---; 133	Hsiao	1945
<i>iyengari</i> <i>hibernus</i> Raynal & Gaschen	---; ---; 144	Theodor	1948
<i>jacchisi</i> Theodor	---; ---; 154	Pringle	1953
	---; ---; 342	Theodor	1948
<i>kochienseis</i> Yao & Wu	---; ---; 76	Theodor	1948
	---; ---; 133	Hsiao	1945

TABLE 1 - SAND FLIES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS kandulakii</i> Schourenkova	---; ---; 28	Burakova & Mirzayan	1934
	---; ---; 35	Kamaloff	1933
	Dark, damp places with decomposing organic matter; June-Nov., peak in July, Sept.; 118	Kamaloff	1934
	---; restricted to highlands, June; 150	Adler et al.	1930
	---; ---; 162, 174	Theodor	1948
	---; ---; 256, 326, 345	Perfil'ev	1931
	---; ---; 318	Perfil'ev	1932
<i>keshishianii</i> Shchurenkova	---; ---; 162	Theodor	1948
	---; ---; 303°	Shchurenkova	1937
<i>khawi</i> Raynal	---; ---; 76	Barnett & Toshioka	1951
<i>kiangsuensis</i> Yao & Wu	---; ---; 76, 168°	Barnett & Toshioka	1951
<i>lagunensis</i> Quate	---; ---; 242	Quate	1965
<i>larrussei</i> <i>canaaniticus</i> Adler & Theodor	---; ---; 154	Pringle	1953
<i>li</i> Popov	---; ---; 28, 150, 162, 345	Sinton	1928
	---; ---; 326	Tarjet	1928
<i>losarcus</i> Quate	---; under loose tree bark; 242	Quate	1965
<i>macedonicus</i> Adler & Theodor	---; implicated in the transmission of Kala-azar; 342	Anonymous	1964 a
<i>major</i> Annandale	---; ---; 28	Burakova & Mirzayan	1934
	---; ---; 31, 76	Haian	1945
	---; ---; 35	Popov	1935
	---; 5,000 feet-7,000 feet, disappears in the winter; 70, 143	Sinton	1924 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>major</i> Annandale (cont.)	Dark, damp places with decomposing organic matter; June-Nov., peak Jul., Sept.; 118 ---; above 5,500 feet altitudes, suspected vector of Sandfly fever; 143 ---; enters houses; 143 ---; 151, 159, 302, 342. ---; enters houses, more common in mountains than plains; 174 ---; enters houses; 154 ---; implicated in the transmission of Kala-azar; 159 ---; ---; 162 ---; ---; 194* ---; ---; 235 ---; dry places although chiefly associated with sea coasts; 256 Moist dark cellars and bathrooms; suspected vector of Kala-azar; 317 ---; 5000 to 7000 feet altitudes; 345	Kamalow Sinton Sinton Adler & Theodor Jacusiel Anonymous Popov Anonymous Pringle Dolmatova Anonymous	1934 1925 a 1928 b 1929 1947 1944 1929 1946 1953 1949 1944 a 1928
<i>major</i> var. <i>chinensis</i> Newstead	---; naturally infected with flagellates of <i>Leishmania</i> , experimental transmission of Kala-azar, May to July, bites at night; 76° ---; possible carrier of Kala-azar; 76 ---; suspected vector of Sandfly fever; 143 ---; ---; 194°	Patton & Hindle Patton Sinton Patton & Hindle	1927 1926 1925 a 1928
<i>major</i> var. <i>grisea</i> Annandale	---; ---; 70, 143	Sinton	1924 a
<i>major</i> <i>longiductus</i> Parrot	---; ---; 162 ---; July; 326	Perfiliev Parrot	1929 1928

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>	---	Popov	1929
<i>major</i>	---	Popov	1929
<i>perniciosus</i>	---	Terdschanian	1929
Newstead	---	Khodukin	1927
	---	Sinton	1928
	---	Pringle	1953
<i>major</i>	---	Theodor	1948
<i>ryriacus</i>	---	Pringle	1953
Adler &	---	Theodor	1948
Theodor	---	Pringle	1953
<i>malabaricus</i>	---	Sinton	1924 a
Annandale	large tree holes; 143	Sinton	1931 b
	---	Edwards	1928
<i>manganus</i>	---	Manalang	1930
Manalang	---	Manalang	1930
<i>maris-mortui</i>	overhanging rocks, caves; 154°, 159°	Theodor	1947
Theodor	---	Theodor	1948
<i>mascittii</i>	---	Sinton	1928
Grassi	---	Popov	1929
<i>maynei</i>	enters houses, July; 143	Sinton	1930
Sinton	---	Perfil'ev &	1935
<i>minitus</i>	---	Gutzevich	
var. <i>arpaklensis</i>	35		
Perfil'ev	---	Sinton	1933
	318	Smith &	1914
<i>minutus</i>	bites at night; 2°	Loughnan	
Rondani	dark places of houses and caves; 2	Loughnan	1913
	28	Popoff	1924
	31, 303	Chodukin &	1931
	59	Sofieff	
	70, 349. ---; cowsheds and dwellings; 235 (Active all year)	Sinton	1927 a
		Sinton	1924 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTONUS</i>			
<i>minutus</i>	---; enters houses, infected with flagellate of <i>Leptomonas</i> , Feb.-March; 143	Mackie	1914
<i>Rondani</i>			
(cont.)	---; on plains and mountains, suspected vector of Sandfly fever; 143. ---; vector and carrier of Sandfly fever; 151*	Sinton	1925 a
	---; ---; 143*	Lloyd & Napier	1930
	Moist cracks, crevices in ground; transmits the unknown parasite of Sandfly fever; 151*	Patton	1920
	---; probably transmits <i>Phlebotomus</i> fever, suspected carrier of Oriental sore; 151	Patton	1919
	---; at light, Nov.; 151. ---; Aug.; 235	Newstead	1920
	---; ---; 151*	Patton	1922
	Cisterns; active at sunset; 154°. ---; large collection; 302	Brunetti	1913
	---; June and July; 154. ---; May; 342	Buxton	1924
	---; ---; 159, 174	Adler & Theodor	1929
	---; caves and ruins; 162	Grebel'ski	1939
	---; enters buildings by day, rests on walls near ceiling or roof, June-Aug., transmits Sandfly fever; 235*	Graham	1915
	---; ---; 317	Akalin	1941
	---; ---; 326	Perfil'ev	1929
	---; common in rainy months; 349	de Mello & Afonso	1921
<i>minutus</i>			
<i>var. africanus</i>	Cracks and crannies of basement walls; enters houses; 154°	Austen	1921
Newstead	---; ---; 317, 342	Austen	1925
<i>minutus</i>			
<i>antennatus</i>	---; ---; 143	Sinton	1928
Newstead	---; enters houses; 235	Sinton	1922
<i>minutus</i>			
<i>arpakensis</i>	---; enters houses; 318	Petrishcheva	1936
Perfil'ev			

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>minutus</i>			
var. <i>montanus</i>	---; above 5,000 feet altitude; 143	Sinton	1924 a
Sinton			
<i>minutus</i>	---; ---; 143	Sinton	1925
var. <i>niger</i>	---; ---; 154	Adler & Theodor	1927
Annandale			
	---; ---; 235	Sinton	1924
<i>minutus</i>	---; ---; 318	Orlows & Schachow	1930
<i>sogdianus</i>			
Parrot	---; June, July; 326	Parrot	1928
<i>mongolensis</i>	---; ---; 76	Theodor	1948
Sinton			
<i>montanus</i>	---; above 5,000 feet altitude; 143	Sinton	1928
Sinton			
<i>morini</i>	---; April; 144	Raynal & Gaschen	1935 d
Raynal & Gaschen			
<i>neglectus</i>	---; ---; 317	Senevet & Parrot	1922
Tonnoir			
<i>neras</i>	---; tree buttress in primary forest, above 500 meters altitude; 242	Quate	1965
Quate			
<i>newsteadi</i>	---; enters houses; 143	Sinton	1928 b
Sinton			
<i>nionic</i>	Kitchen drains; bites at night; 242 ^a	Banks	1919
Banks			
	Tree holes; ---; 242	Manalang	1930
	---; Apr.-May, July; 242	Manalang	1930 a
<i>nifer</i>	---; ---; 28	Popoff	1924
<i>palestinensis</i>	---; ---; 150, 342	Theodor	1948
Adler & Theodor	---; ---; 151, 159	Adler & Theodor	1929
	---; ---; 154	Pringle	1953

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>papatasi</i> Scopoli	---; ---; 3	Sinton	1925
	---; ---; 28	Popoff	1924
	---; ---; 31	Theodor	1948
	---; ---; 70. ---; in cowsheds, seldom in dwellings, active all year; 235	Sinton	1924 a
	---; experimentally infected with <i>L. donovani</i> ; 76, 143. ---; host of <i>Leishmania tropica</i> ; 342	Adler & Theodor	1930
	---; well-known carrier of "Papatasi" or "Sandfly" fever; 76	Patton	1926
	Sides of reservoirs, thick vegetated soil protected from sun during dry season, paved floors; enters houses; 143°	Smith et al.	1936
	Pits; ---; 143	McCombie Young	1927
	---; suspected vector of Sandfly fever; 143. ---; experimental transmission of Sandfly fever; 345	Sinton	1925 a
	---; huts, cattlesheds, dry plains, experimentally infected with Kala-azar; 143	Napier & Smith	1927
	---; naturally infected with <i>Leishmania tropica</i> ; 143	Farooq & Qutubuddin	1945
	---; experimentally infected with oriental sore; 143	Koy & Brown	1954
	---; carrier of Sandfly fever; 143	Sinton	1932 a
	---; active morning and night; 150. ---; dry regions; 302	Adler et al.	1930
	---; bloodsucker; 150, 151°, 154, 159, 302	Pringle	1953
	Moist cracks and crevices in the ground; Mar.-Dec.; 151*	Patton	1920
	---; in houses along riverbank, experimentally infected with <i>Leishmania tropica</i> ; 151. ---; enters houses, naturally infected with and carrier of <i>L. tropica</i> ; 159°. ---; carrier of oriental sore; 302	Adler & Theodor	1979
	---; in houses, naturally infected with <i>Herpetomonas</i> , experimental transmission of cutaneous Leishmaniasis to man, artificially infected with <i>Herpetomonas tropica</i> from oriental sore, Apr.-Dec.; 151, 159, 342°	Adler & Theodor	1926

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS papatasii</i>	---; vector of <i>Leishmania tropica</i> ; Sept.-Jan.; 151	Mills et al.	1930
Scopoli (cont.)	---; probably transmits <i>Phlebotomus</i> fever, suspected carrier of Oriental sore; 151	Patton	1919
	---; ---; 151*, 302*	Weyer & Zumpt	1952
	Cisterns; active at sunset, Oct.; 154*. ---; common; 302	Brunetti	1913
	---; transmits Sandfly fever, May to Oct.; 154*, 159*, 342*	Kligler	1928
	---; June, July; 154, 342	Buxtor	1924
	---; bloodsuckers; 154	Austen	1921
	---; salt desert; 154	Hertig & Fisher	1945
	---; in houses; 154	Jacusiel	1947
	---; naturally and experimentally infected with <i>Leishmania tropica</i> ; 159*. ---; experimentally infected with <i>L. tropica</i> , vector of oriental sore; 342**	Adler & Ber	1941
	---; ---; 162. ---; in houses; 326	Perfiliev	1929
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; experimentally infected with dengue; 174	Couvy	1922
	---; enters buildings by day, rests on walls near ceiling or roof, June-Aug.; 235*	Graham	1915
	Small pit with water; abundant in houses; 256	Yatzenko	1929
	Soil; ---; 256	Livshitz & Tarumov	1942
	---; damp shady places with dense vegetation, cracks in floors, enters houses, avoids light and active in complete darkness, active June-Sept.; 256*	Kremer	1930
	---; ---; 256**	Voinov et al.	1936
	---; ---; 303*	Latuikhov & Sochilova	1936
	---; vector of Sandfly fever and oriental sore; 317**	Anonymous	1944
	---; indoors, active at sunrise and hottest part of day, Mar.-Oct.; 317	Adelmann	1919

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>papatasi</i> Scopoli (cont.)	---; ---; 321	Artemenko	1945
	---; ---; 326	Sinton	1928
	---; naturally infected with cutaneous Leishmaniasis; 342	Adler	1926
	---; experimentally infected with <i>Leishmania tropica</i> ; 342	Adler & Theodor	1927 a
	---; ---; 342	Dubarry & Giraud-Costa	1941
<i>papatasi</i> var. <i>antennatus</i> Newstead	---; ---; 70, 143	Sinton	1924
<i>papatasi</i> var. <i>montanus</i> Annandale	---; ---; 70, 143	Sinton	1924 a
<i>paportasi</i> var. <i>niger</i> Sinton	---; ---; 70, 143	Sinton	1924 a
<i>pawlowsky</i> Perfiljew	---; ---; 162	Theodor	1948
	---; ---; 318	Perfiljew	1933
<i>perfiliewi</i> Perrot	---; ---; 154	Pringle	1953
<i>perfiliewi</i> <i>transcaucasicus</i> Perfil'ev	---; ---; 35	Theodor	1948
<i>perniciosus</i> Newstead	---; ---; 28	Popoff	1924
	---; ---; 118*	Geigy & Herbig	1955
	---; ---; 162	Popov	1926 a
	---; ---; 256	Popov	1927
	---; May; 302	Buxton	1928
	---; ---; 317	Akalin	1941
	---; ---; 318	Orlows & Schachow	1930
	---; ---; 321	Nasomov	1929
	---; ---; 326	Khodukin	1928
	---; experimentally infected with <i>Leishmania</i> infection; 342	Adler & Ber	1941
	---; suspected vector of Sandfly fever; 345	Sinton	1925 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>perniciosus</i> var. <i>tauricus</i> Nasonov	---; ---; 256	Nasonov	1929
<i>perniciosus</i> <i>tobbi</i> Adler, Theodor & Laurie	---; ---; 118 ---; experimentally infected with <i>Leishmania donovani</i> , possible vector of Kala-azar; 150. ---; 154, 242 ---; in dry places although associated with sea coasts; 256	Parrot Adler et al.	1934 1930
	---; ---; 342	Dolmatova	1949
	---; ---; 342	Caminopetros	1935
<i>perturbans</i> de Meijere	---; ---; 70, 146. ---; active all year; 143 ---; May-Sept.; 76	Sinton	1924 a
	---; enters houses; 143	Patton & Hindle	1927
	---; ---; 190	Awati	1922
	---; ---; 190	Edwards	1928
<i>philippensis</i> Manalang	---; tree trunk, at light in cave; 242	Quate	1965
<i>pholetor</i> Quate & Fairchild	---; limestone cave in mountain near coast; 242	Quate	1965
<i>pirumovi</i> Burakova & Mirzayan	---; ---; 28 ---; ---; 35, 118 ---; ---; 166	Burakova & Mirzayan Perfil'ev & Gutzevich Petrishcheva & Aluimov	1934 1935 1940
<i>pooi</i> Yao & Wu	---; ---; 76	Heiao	1945
<i>puri</i> Sinton	Tree holes in dense forest; ---; 143	Sinton	1931 c
<i>sejunctus</i> Quate	---; bat-inhabited caves; 242	Quate	1965
<i>selectus</i> Khodukin	---; ---; 326	Khodukin	1929
<i>sequens</i> Perfil'ev	---; in caves, rarely in houses; 256 ---; ---; 256	Perfil'ev Theodor	1961 1948

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
			8
<i>PHLEBOTOMUS</i>	---	Sinton	1928
<i>sergenti</i>	31, 350		
<i>Parrot</i>	---	Popov	1935
	---	Sinton	1924 a

	70, 143. ---; in stables, indoors, July-Aug.; 235		
	---	Yuan	1939
	---	Young & Hertig	1929
	Dark, damp places with decomposing matter; June-Nov.; 118	Kamalow	1934
	---	Kamaloff	1933
	---	Sinton	1925 a
	suspected vector of Sandfly fever; 143. ---; enters houses; 150. ---; 342. ---; possible vector of Sandfly fever; 345		
	---	Kirk & Lewis	1955
	---	Geigy & Herbig	1955
	---	Roy & Brown	1954
	---	Adler et al.	1930

	350		
	---	Theodor	1947
	transmits oriental sore; 151*. ---; cave; 159.		

	probably transmits oriental sore, common; 302		

	in houses, main carrier of <i>Leishmania tropica</i> ; 151*. ---; 174. ---; carrier of oriental sore; 302	Adler & Theodor	1929

	---	Pringle	1953

	caves and ruins; 162	Grebelskii	1939

	---	Perfiliev	1929

	enters houses; 166	Petrishcheva & Aluimov	1940

	302 (Vector of Sandfly fever, cutaneous <i>Leishmaniasis</i> , Kala-azar)	Anonymous	1944

	---	Shchurenkova	1937

	---	Akalin	1941
	Rodent burrows; ---; 318	Petrishcheva & Cuban	1949

	deep holes in mountains; 318	Perfil'ev	1932

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>sergenti</i>	---; ---; 321	Artemenko	1945
Parrot (cont.)	---; July; 326	Parrot	1928
<i>sergenti</i> var.	---; naturally infected with flagellates, possible vector of Kala-azar; 76°	Patton & Hidle	1927
<i>sergenti</i> <i>alexandri</i>	---; ---; 143, 303. ---; rare; 151	Adler et al.	1930
Sinton	---; ---; 235	Sinton	1928
	Rodent burrows; ---; 318	Petrishcheva & Gubar	1949
	---; ---; 326	Perfil'ev	1929
<i>sergenti</i> var. <i>lii</i>	---; July; 326	Parrot	1928
Popow			
<i>sergenti</i> <i>mongolensis</i>	---; ---; 31	Chodukin & Sofieff	1931
Sinton	Enters houses; experimentally infected with Kala-azar, May-Sept.; 76. ---; ---; 303, 318, 326	Dicke & Hsiao	1946
	---; experimental transmission of <i>Leishmania donovani</i> ; 76	Hindle	1931
	---; vector of <i>Leishmania donovani</i> ; 76**	Geigy & Herbig	1955
	---; possible vector of <i>Leishmania</i> ; 76	Hsiao	1945
	---; experimentally infected with filariasis; 76	Yao et al.	1938
	---; ---; 194*	Anonymous	1946
	---; ---; 194	Barnett & Toshioka	1951
<i>shortii</i>	---; ---; 59, 235	Sinton	1928
Adler & Theodor	---; ---; 76	Patton	1926
	---; among banana clumps; 143°	Smith et al.	1936
	---; ---; 326	Perfil'ev	1931
<i>silvestris</i>	---; ---; 143	Nitzulescu	1930
Sinton			
<i>simillimus</i>	---; ---; 143	Sinton	1927
var. <i>hospitii</i>	---; enters houses, at 2,023 feet altitude; 235	Sinton	1924

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>amirnovi</i> Perfiliev	---; ---; 162	Theodor	1948
<i>smithi</i>	---; ---; 143	Roy & Brown	1954
<i>sogdianus</i> Parrott	---; ---; 162 ---; ---; 326	Theodor	1948
<i>spinifauoris</i> Quate	---; tree buttress in disturbed forest near ocean at sea level; 242	Quate	1965
<i>squamipleuris</i> Newstead	---; ---; 31, 133 ---; ---; 70, 235 ---; attracted by artificial light, enters houses, July; 143 ---; sea level to 5,500 feet altitude; 143 ---; ---; 151 ---; electric lights in railway stations; 277 ---; ---; 277, 303, 318 (May bite man)	Sinton	1924 a 1932
	---; ---; 277 (Cool moist soil rich with decaying organic matter, enters houses)	Sinton	1923
	---; enters houses; 318	Petrishcheva	1936
<i>squamirostris</i> Newstead	---; May-Sept.; 76. ---; ---; 133, 158 (In houses) ---; experimentally infected with Kala-azar; 76	Dicke & Hsiao	1946
	Tree holes; ---; 143	Sinton	1931 b
	---; ---; 194	Anonymous	1946
<i>stalinabadi</i> (Chodukin & Sofieff	---; ---; 31, 326. ---; enters houses; 303	Chodukin & So'ieff	1931
<i>stantoni</i> Newstead	---; ---; 76, 133. ---; enters houses; 143, 190, 277. ---; enters houses, April-Dec.; 144	Dicke & Hsiao	1946
	---; plains, hilly regions; 144	Gaschen & Nguyen-Nguyen	1938
	---; common; 144	Raynal & Gaschen	1935 d

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>stellae</i> Quate	---; ---; 242	Quate	1965
<i>sumbaricus</i> Perfil'ev	---; ---; 162 ---; enters houses; 166	Theodor	1948
	---; enters houses; 318	Petrishcheva	1940
		Petrishcheva	1936
<i>sylraticus</i> Raynal & Gaschen	---; Sept., Oct.; 144	Raynal & Gaschen	1935 c
<i>sylvestris</i> Sinton	---; jungle and foothills; 59, 143 ---; large tree holes; 143 ---; Oct., Nov.; 144. ---; ---; 146, 366	Sinton	1932 a 1931 b 1935 a
	---; plains, hilly regions; 144	Gaschen & Nguyen-Nguyen	1938
<i>taianensis</i> Patton & Hindle	---; ---; 76	Nitzulescu	1930
<i>thapari</i>	---; ---; 143	Roy & Brown	1954
<i>tiberiadis</i> Adler, Theodor & Laurie	---; ---; 154 ---; ---; 342	Pringle	1953
<i>tobbi</i> Adler & Theodor	---; ---; 150 ---; ---; 154	Sinton	1932
<i>tonkinensis</i> Raynal & Gaschen	---; Nov.; 144	Theodor	1948
		Pringle	1953
<i>torrechantei</i> Manalang	---; ---; 242	Raynal & Gaschen	1935
<i>tracheolus</i> Quate	---; tree holes, tree buttresses in primary forest; 242	Manalang	1931
<i>venyonii</i> Adler & Theodor	---; active from midnight to dawn, restricted to highlands; 150	Quate	1965
	---; bloodsucker; 151	Adler et al.	1930
	---; ---; 162	Pringle	1953
	---; ---; 318	Theodor	1948
		Petrishcheva	1935

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>yashimotoi</i> Quate	---; tree buttresses; 242	Quate	1965
<i>seylanicus</i> Annandale	---; April-Aug. at 1500 feet elevation; 70	Sinton	1924 a
	---; tree holes; 143	Sinton	1931 b
	---; jungle, warm moist conditions; 143	Sinton	1932 a
<i>PSYCHODA</i>			
<i>alternata</i> Say	Stones of sewage filters; ---; 190	Garter	1929
<i>b. punctata</i> Curtis	---; ---; 158*	Okada	1927
<i>bengalensis</i> Brunetti	---; ---; 59, 70. ---; common, plains; 143	Brunetti	1917
<i>hirtipennis</i> Brunetti	---; ---; 143	Brunetti	1917
<i>nigripennis</i> Brunetti	---; plains; 143	Brunetti	1917
<i>SERGENTOMYIA</i>			
<i>babu</i>			
<i>var. insularis</i> Theodor	---; ---; 70	Theodor	1948
<i>dentata</i>			
<i>mediensis</i> Pringle	---; ---; 151	Pringle	1953
<i>fallax</i> (Parrot)	---; ---; 154	Pringle	1953
	---; ---; 342	Theodor	1948
<i>iyengari</i>			
<i>var. malayensis</i> Theodor	---; ---; 190	Theodor	1948
<i>koloshanensis</i> Yao & Wu	---; ---; 76	Theodor	1948
<i>mervynae</i> Pringle	---; ---; 151	Pringle	1953
<i>murgabienensis</i> Perfiliev	---; ---; 162	Theodor	1948
<i>punjabensis</i> Sinton	---; ---; 143	Theodor	1948

7
TABLE 1 - SAND FLIES (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SERGENTOMYIA</i> <i>silvatica</i> Raynal & Gaschen	---; ---; 144	Theodor	1948
<i>sintoni</i> Pringle	---; ---; 151	Pringle	1953
<i>squamipleuris</i> var. <i>indica</i> Theodor	---; ---; 143, 162	Theodor	1948
<i>theodori</i> (Parrot)	---; ---; 154, 174, 302 ---; ---; 342	Pringle	1953
<i>theodori</i> <i>babylonica</i> Pringle	---; ---; 151, 154, 159	Pringle	1953
<i>TELMATOSCOPEUS</i> <i>albipunctatus</i> Will.	Sewage tanks; ---; 190 ---; at light; 190	Garter Edwards	1929 1928

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY SAND FLIES

DISEASE OR DISEASE ORGANISM					COUNTRY
	: VIRUS &	: :	: :	: :	
	: RICKETTSIA	: PROTOZOA	: HELMINTHS	: OTHER	
<i>PHLEBOTOMUS</i>					
<i>argentipes</i>		Kala-azar			143
Annandale & Brunetti					
<i>chinensis</i>		Kala-azar			76 (Yuan 1939)
Newstead					
		<i>Leishmania</i> <i>donovani</i>			76
	Sand fly fever				194
<i>crimicus</i>		Sand fly fever			256
Shtefko & Minkevich					
<i>major</i>		Sand fly fever			194
Annandale					
<i>minutus</i>		Oriental sore			151 (Patton 1922)
Rondani					
		Sand fly fever			151 235
<i>papatasii</i>		<i>Leishmania</i> <i>tropica</i>			159
Scopoli					
		Oriental sore			151 317 (Anonymous 302 342 1944)
	Sand fly fever				151 (Kligler 1928)
					154
					159 (Kligler 1928)
					235
					256
					317
					342
<i>perniciosus</i>			"Khava fever"		118 (Kandelaki 1920)
Newstead					
		<i>Leishmania</i> <i>tropica</i>			118
<i>sergenti</i>		Kala-azar			76
Parrot					
		<i>Leishmania</i> <i>tropica</i>			143 151
		Oriental sore			143

TABLE 2 - SAND FLIES (concluded)

DISEASE OR DISEASE ORGANISM					COUNTRY
: VIRUS &	:	:	:	:	
: RICKETTSIA		PROTOZOA	HELMINTHS	OTHER	
:	:	:	:	:	
<i>PHLEBOTOMUS</i>					
<i>sergenti</i>		<i>Leishmania</i>			
<i>mongolensis</i>		<i>donovani</i>			76
Sinton					
	Sand fly				
	fever				194
<i>PSYCHODA</i>					
<i>b. punctata</i>			<i>Myiasis</i>		158
Curtis					

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D. MIDGES

The midges include representatives from the family Ceratopogonidae. In some areas the biting species, especially *Culicoides*, are called "sand flies". Little is known of the biology of individual species; however, the larvae are known to occur either in water or in moist terrestrial environments. Although quite important as pests, these biting midges are vectors for several disease organisms.

The tables include 272 species or subspecies, most of which are in the large genus *Culicoides*.

TABLE 1 - MIDGEES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY· DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPOGON</i> <i>maculatus</i> (Shiraki)	---; severely bites man in mountainous region; 77°	Tokunaga	1937
<i>scutini</i> de Meijere	---; near mouth of river, bites by day, preferably in sunlight, periods of abundance irregular; 149°	Salm	1914
<i>shimai</i> Sasaki	---; attacks by night; 158°	Tokunaga	1937a
<i>stimulans</i> de Meijere	---; near water, bites by day, preferably in sunlight, periods of abundance irregular; 149°	Salm	1914
<i>taiwanus</i> (Shiraki)	---; houses at day time; 77*°	Tokunaga	1937
<i>vexans</i> de Meijere	---; near mouth of river, bites by day, preferably in sunlight, periods of abundance irregular; 149°	Salm	1914
<i>CULICOIDES</i> <i>actoni</i> Smith	---; ---; 143° ---; ---; 143 ---; collected from light traps, Sept., collected from slope of mountains, Aug.; 242	Smith Vargas Delfinado	1929 1949 1961
<i>albicans</i> (Winnertz)	---; ---; 101. Wet soil, sphagnum morras; ---; 256. ---; ---; 366 ---; ---; 194	Gutzevich Takahasi	1960 1941
<i>albifascia</i> Tokunaga	---; in mountains; 77 ---; ---; 158	Tokunaga	1937 1940
<i>albibasis</i> Wirth & Hubert	---; carabao-baited trap, Jan., Aug., Nov.-Dec., light trap, Oct.; 242	Delfinado	1961
<i>albihalter</i> <i>nitreipennis</i> Austen	---; ---; 342	Vargas	1949
<i>albipennis</i> Smith & Swaminath	---; ---; 143	Vargas	1949
<i>alboguttatus</i> Kieffer	---; ---; 77	Kieffer	1921
<i>albonotatus</i> Kieffer	---; ---; 342, 350	Vargas	1949
<i>albosignatus</i> Vimmer	---; ---; 342	Vargas	1949

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES umaniensis</i> Tokunaga	---; troublesome, bites man in evenings; 158°, 257°	Tokunaga	1937
	---; ---; 194	Vargas	1949
<i>andrewsi</i> Causey	---; light traps; 277	Causey	1938
<i>anophelis</i> Edwards	---; ---; 143, 149, 190. Water in leaf axils of <i>Colocasia indica</i> ; Sept.; 146	Johannsen	1931
	---; feeds on <i>Anopheles hyrcanus</i> ; 14	Gutzevich	1960
	---; ---; 277	Causey	1938
<i>anophelis ferox</i> (Lalor)	---; ---; 143, 190	Vargas	1949
<i>anophelis</i> var. <i>flavescens</i> Macfie	---; ---; 190	Vargas	1949
<i>arakawai</i> (Arakawa)	---; ---; 76, 77, 150, 168 (Attacks man) ---; collected from light trap, May, Sept.; 242 ---; ---; 256°	Barnett & Toshioka Delfinado Gutzevich	1951 1961 1960
<i>arakawai</i> (Matsumura)	Dung of fowls; ---; 158	Tokunaga	1937
<i>arboreus</i> Gutzevich	Tree holes; ---; 256	Gutzevich	1960
<i>arcuatus</i> (Winnertz)	Fresh water ponds; ---; 158 ---; ---; 194 ---; ---; 256	Tokunaga Vargas Fraser	1937 1949 1920
<i>arcuatus</i> var. <i>no. 1</i>	---; ---; 194	Tokunaga	1941
<i>arcuatus</i> var. <i>nigrus</i> Tokunaga	---; ---; 194	Vargas	1949
<i>assamensis</i> Smith & Swaminath	---; ---; 143	Vargas	1949

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES assimilis</i> Delfinado	---; carabao-baited trap, July, Oct., light traps, May, Sept.; 242	Delfinado	1961
<i>aterinerois</i> Tokunaga	---; mountainous region, enters houses; 158°	Tokunaga	1937
<i>aurantiacus</i> Kieffer	---; ---; 275	Vargas	1949
<i>baisaei</i> Wirth & Hubert	---; carabao-baited trap, Jan., May, Nov., light trap, Jan., Oct., Dec.; 242	Delfinado	1961
<i>barnetti</i> Wirth & Hubert	---; carabao-baited trap, Nov., Dec., light trap, May, Sept.; 242	Delfinado	1961
<i>biaruatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>bimaculicosta</i> Floch & Abonnec	---; ---; 143°	Smith	1929
<i>bipunctatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>bisoapus</i> Kieffer	---; ---; 144°	Kieffer	1925
	---; ---; 144	Vargas	1949
<i>bisulcatus</i> Gutzevich	---; ---; 256	Gutzevich	1960
	,		
<i>bodenheimeri</i> Vimmer	---; ---; 342	Vargas	1949
<i>boophagus</i> Macfie	---; ---; 190	Vargas	1949
	---; Sept.; 242	Delfinado	1961
<i>brevimarus</i> Kieffer	---; ---; 337	Vargas	1949
<i>brevipalpis</i> Delfinado	---; from light traps, Sept.; 242	Delfinado	1961
<i>bubalus</i> Delfinado	---; carabao-baited trap, Aug.; 242	Delfinado	1961

TABLE 1 - MIDGES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>buckleyi</i> Macfie	---; ---; 190	Vargas	1949
<i>buhetoensis</i> Takahasi	---; active in cold evening; 194°	Takahasi	1941
	---; ---; 194	Vargas	1949
<i>carjalaensis</i> Gluchova	---; ---; 256	Gutzevich	1960
<i>caspicus</i> Gutzevich	---; ---; 256	Gutzevich	1960
<i>chaetophthalmus</i> Amosova	---; ---; 256 (Bites man)	Gutzevich	1960
<i>chispherus</i> Mergin	---; ---; 162. Rotten mushrooms, dried cow dung in the field; ---; 256 (Bites man in some areas)	Gutzevich	1960
	---; ---; 194	Takahasi	1941
<i>circumscriptus</i> Kieffer	---; ---; 76, 77, 158, 168 (Salt marshes and salt lakes)	Barnett & Toshioka	1951
	---; ---; 101. Dirty small ponds without plants; ---; 256. ---; ---; 345	Gutzevich	1960
	---; in lighted tent at night; 154	Austen	1921
	Small salt water pools of rocky seashore; ---; 158, 342, 350	Tokunaga	1937
<i>circumscriptus</i> <i>albonotatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>circumscriptus</i> <i>nadayame</i> Kieffer	---; ---; 350	Vargas	1949
<i>circumscriptus</i> var. <i>piotidovum</i> Kieffer	---; ---; 256	Gutzevich	1960
<i>circumscriptus</i> <i>polymaculatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>clavipalpis</i> Mukerji	---; cowsheds; 163 ---; from light trap, Sept.; 242 ---; collected from light traps; 277	Mukerji Delfinado Cousay	1931 1961 1938

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>cordiformis</i> Kieffer	---; ---; 101	Vargas	1949
<i>cordiger</i> Macfie	---; ---; 190	Vargas	1949
	---; April-May; 242	Delfinado	1961
<i>corti</i> Causey	---; from light traps; 277	Causey	1938
<i>crassipilosus</i> Tokunaga	---; ---; 158	Vargas	1949
<i>cubitalis</i> Edwards	---; ---; 101, 150, 256, 321, 340, 345 (Appeared late in the summer, bites man)	Gutzevich	1960
<i>cunctans</i> Winnertz	---; ---; 101, 256, 336	Gutzevich	1960
<i>daleki</i> Smith & Swaminath	---; ---; 143, 190, 277	Vargas	1949
<i>damnosus</i> Delfinado	---; March; 242°	Delfinado	1961
<i>dendrophilus</i> Amosova	Tree holes; ---; 256, 321	Gutzevich	1960
<i>dermoadi</i> Causey	---; ---; 277	Vargas	1949
<i>desertorum</i> Gutzevich	---; ---; 318	Gutzevich	1960
<i>dowulfi</i> Goetghebuer	Dried cow dung; ---; 101	Gutzevich	1960
<i>duodenarius</i> Kieffer	---; ---; 77	Vargas	1949
	---; ---; 158	Tokunaga	1940
<i>effusus</i> Delfinado	---; carabao-baited trap, March, July-Sept., at sea level, Oct. 3300 feet altitude at light, Sept.; 242	Delfinado	1961
<i>ejeroitoi</i> Delfinado	---; near sea level, March-April; 242	Delfinado	1961
<i>epactius</i> Arnaud	---; ---; 158	Gutzevich	1960

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>erairai</i>	---; ---; 76	Gutzevich	1960
Kono & Takahasi	---; active in the evening; 158°, 194°	Takahasi	1941
	---; ---; 158, 194 (Attacks man out-of-doors)	Barnatt & Toshioka	1951
	---; ---; 256	Tokunaga	1940
<i>esmoneti</i>	---; on the shore and near running water, attracted to light at night; 146	Salm	1918
Salm			
<i>fagineus</i>	---; ---; 118, 158. Tree holes; ---; 256	Gutzevich	1960
Edwards			
<i>fascipennis</i>	---; ---; 101	Vargas	1949
(Staeger)	Small reservoir, wet soil on glade, drains and ditches; July-Sept.; 256°, 294°	Gutzevich	1960
<i>fascipennis</i>			
<i>albonotatus</i>	---; ---; 350	Vargas	1949
Kieffer			
<i>ferox</i>	---; ---; 143, 190	Vargas	1949
(Lalor)			
<i>firusae</i>	---; ---; 35	Gutzevich	1960
Dzhafarov			
<i>flavescens</i>	---; ---; 190	Vargas	1949
Macfie	---; carabao-baited trap, Jan.; 242	Delfinado	1961
<i>flavidus</i>	---; ---; 35, 101, 118	Gutzevich	1960
<i>flavipes</i>	---; ---; 342	Vargas	1949
Vimmer			
<i>flavirostris</i>	---; ---; 342	Vargas	1949
Vimmer			
<i>flaviscutatus</i>	---; 6000 feet altitude, Nov., light trap, Sept., carabao-baited trap, Nov.; 242	Delfinado	1961
Wirth & Hubert			
<i>fluminensis</i>	---; ---; 190	Vargas	1949
Macfie			
<i>formosae</i>	---; ---; 77	Vargas	1949
Kieffer	---; ---; 158	Tokunaga	1940

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>fuloithorax</i> (Austen)	---; ---; 143°	Smith & Swarth	1932
<i>furens</i> var. <i>maculithorax</i> Williston	---; ---; 143	Kieffer	1925
<i>gemellus</i> Macfie	---; ---; 145 ---; carabao-baited trap, at night, Jan., May, Aug., Nov., Dec.; 242	Vargas Delfinado	1949 1961
<i>geminus</i> Macfie	---; ---; 190	Vargas	1949
<i>gentilis</i> Macfie	---; ---; 190	Vargas	1949
<i>grahami</i> Austen	---; ---; 256	Gutzevich	1960
<i>gewertzi</i> Causey	---; ---; 277	Vargas	1949
<i>grisescens</i> Edwards	Reservoir, wet soil, forest dirt road and trail, deforested areas; Taiga landscape; 294°	Gutzevich	1960
<i>griseniatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>guttifer</i> de Meijere	---; ---; 146. Tree holes; ---; 149 Small shady muddy pools; ---; 190 ---; from light traps, May; 242 ---; in houses; 277	Johannsen Edwards Delfinado Causey	1931 1922 1961 1938
<i>guttularis</i> Kieffer	---; in lighted tent at night; 154 ---; ---; 317, 342	Austen Austen	1921 1925
<i>gymnopterus</i> Edwards	---; in mountains, 2000, 3000, 7000 feet; 145 ---; ---; 242	Edwards Edwards	1926 1929
<i>halophilus</i> Kieffer	---; ---; 118, 173, 256, 303	Gutzevich	1960
<i>hegnemii</i> Causey	---; from light traps, May, Sept. and Dec.; 242 ---; collected from light traps; 277	Delfinado Causey	1961 1938

TABLE 1 - MIDGEs (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>heliophilus</i> Edwards	---; ---; 101. Swamps sphagnum; active by day and to bright lights; 256°	Gutzevich	1960
<i>hewitti</i> Causey	---; ---; 277	Vargas	1949
<i>himalayoe</i> Kieffer	---, bite of venomous nature; 218°	Mukerji	1931
<i>hirtipennis</i> Delfinado	---; at 1500 feet elevation, Jan.; 242	Delfinado	1961
<i>homotomus</i> Kieffer	---; ---; 76, 158	Gutzevich	1960
	---; ---; 77	Vargas	1949
<i>homotomus</i> <i>nubeculosus</i> Tokunaga	---; ---; 158, 194	Vargas	1949
<i>homo</i> sp. <i>osakae</i> sp. Iwata	---; ---; 158	Vargas	1949
<i>housei</i> Causey	---; from light traps; 277	Causey	1938
<i>hujii</i> Causey	---; from light trap, Sept. and Dec.; 242	Delfinado	1961
	---; from light traps; 277	Causey	1938
<i>humeralis</i> Okada	---; ---; 256°	Gutzevich	1960
<i>I</i> Tokunaga	---; ---; 194	Vargas	1949
<i>impunctatus</i> Goetgheluwe	---; ---; 194°	Barnett & Toshioka	1951
	Swamps, underzone mixed forest; June; 256°	Gutzevich	1960
<i>impunctatus</i> var. <i>minor</i> Tokunaga	---; ---; 194	Vargas	1949
<i>indecora</i> Kieffer	---; ---; 77	Vargas	1949
	---; ---; 158	Tokunaga	1940

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>infulatus</i> Delfinado	---; near sea level; Oct. and Nov.; 242	Delfinado	1961
<i>inornatipennis</i> Carter, Ingram & Macfie	---; ---; 280	Johannsen	1931
<i>insignipennis</i> Macfie	---; ---; 190 ---; carabao-baited trap, Dec.; 242	Vargas	1949
<i>jacobsoni</i> Macfie	---; ---; 149 ---; Oct.; 242	Delfinado	1961
<i>javanicus</i> Salm	---; on the shore of a river, attracted to artificial light; 146	Salm	1918
<i>judaeae</i> Macfie	---; ---; 342	Vargas	1949
<i>judicandus</i> Bezzi	Mountain streams; most abundant at rainfall; 242° ---; ---; 242	Banks	1919
<i>kagiensis</i> Tokunaga	---; in house by night; 77	Vargas	1949
<i>kibunensis</i> Tokunaga	---; ---; 158	Tokunaga	1937
<i>kibunensis</i> Tokunaga	---; rapid stream; 158	Tokunaga	1940
<i>kisfferi</i> Patton	---; ---; 194	Patton	1937
<i>K II</i> Tokunaga	Eggs laid in mass in the vicinity of water with algal growth; Nov.-Apr.; 143° ---; ---; 143	Vargas	1949
<i>klossi</i> Edwards	---; ---; 158	Vargas	1949
<i>koreensis</i> Arnaud	---; ---; 145	Gutzevich	1960
<i>kurensis</i> Dzhafarov	---; ---; 168. Pools; ---; 256	Gutzevich	1960
<i>kyotoensis</i> Tokunaga	---; ---; 35, 326	Tokunaga	1937

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>litoreus</i> Amosova	---; alkaline pool; 256	Gutzevich	1960
<i>longipalpis</i> Delfinado	---; at 3300 feet altitude, Sept.; 242	Delfinado	1961
<i>luteosignatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>mcdowellii</i> Delfinado	---; sea level, March and April; 242	Delfinado	1961
<i>macfieii</i> Causey	---; ---; 277	Vargas	1949
<i>macrostoma</i> Kieffer	---; probable vector of Kala-azar; 143	Fletcher	1924
	---; ---; 143°	Christophers et al	1925
	---; ---; 337	Vargas	1949
<i>maculatus</i> (Shiraki)	---; May-Sept., mountainous regions; 77°. ---; ---; 158°	Tokunaga	1937
	---; ---; 77	Vargas	1949
<i>maculatus</i> <i>tainana</i> Kieffer	---; ---; 77	Vargas	1949
<i>maculipennis</i> (Macfie)	---; ---; 190	Vargas	1949
<i>malayi</i> Macfie	---; ---; 190	Macfie	1937
	---; at light, Dec.; 242	Delfinado	1961
<i>manchuriensis</i> Tokunaga	---; ---; 194	Tokunaga	1941
<i>marginatus</i> Delfinado	---; from light traps and near sea level, May, Oct.; 242	Delfinado	1961
<i>maritimus</i> Kieffer	Alkaline reservoir; ---; 256	Gutzevich	1960
<i>matsawai</i> Tokunaga	---; ---; 158	Gutzevich	1960
<i>mesopotamiensis</i> Patton	Algae in pools, streams, and creeks; along river banks and creeks; 151	Patton	1920

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>micromaculatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>miharai</i> Kinoshita	---; bloodsucking; 158°	Tokunaga	1940
	---; ---; 158. Muddy tidal flat along coast; in houses in the evening, June, Aug.-Sept.; 168	Tokunaga	1937
	---; active in the evening, Apr.-Aug., Oct.-Nov.; 168	Hsiao	1948
	---; biting most intense during early evening hours, cause intense itching; 168°	Barnett & Toshioka	1951
	---; seashore, riverside, attacks man towards evening; 168	Kinoshita	1918
	---; ---; 168	Vargas	1949
<i>mihensis</i> Arnaud	---; ---; 158	Gutzevich	1960
<i>minutissimus</i> Zetterstedt	---; ---; 342	Goetghebuer	1934
<i>montivagus</i> Kieffer	---; ---; 143	Brunetti	1917
	---; ---; 337	Vargas	1949
<i>morisitae</i> Tokunaga	---; ---; 76	Barnett & Toshioka	1951
<i>mystacinus</i> Vimmer	---; ---; 342	Vargas	1949
<i>madaycarus</i> Kieffer	---; ---; 350	Vargas	1949
<i>newsteadi</i> Austen	---; in lighted tent at night; 154°	Austen	1921
<i>nigroannulata</i> Goetghebuer	---; ---; 337	Vargas	1949
<i>nigrus</i> Tokunaga	---; ---; 194	Vargas	1949
<i>nitens</i> Edwards	---; ---; 145	Vargas	1949
<i>nitidulus</i> Kieffer	---; ---; 337	Vargas	1949

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>notatus</i> Delfinado	---; collected near sea level, Oct.; 242	Delfinado	1961
<i>nubeculosus</i> (Meigen)	---; ---; 76, 77, 158, 194, 210. (Salt marshes, bites man in early morning, night and on calm, cloudy days)	Barnett & Toshioka	1951
	---; ---; 151, 317	Austen	1925
	---; ---; 158°	Tokunaga	1937
	---; bites during day or at dusk causing painful swellings; 194°	Anonymous	1946
	Underzone of mixed forest, ditch, pond; ---; 256. ---; ---; 321	Gutzevich	1960
<i>nubeculosus</i> var. no. 1 Meigen	---; ---; 194, 210	Tokunaga	1940
<i>nudipalpis</i> Delfinado	---; carabao-baited trap, March, from light traps, May, Sept.; 242	Delfinado	1961
<i>obsoletus</i> Meigen	---; ---; 101, 118. Wet soil, rotten leaves and mushrooms; forest landscape; 256	Gutzevich	1960
	Decaying fungi, sheep dung; troublesome; 158°, 256	Tokunaga	1937
	---; bite might produce a large swelling, reddish in color and accompanied by an edema, disagreeable inflammation and severe irritation; 158°, 256°	Kono & Takahasi	1940
	---; ---; 158, 194	Tokunaga	1941
	---; bites during day or at dusk causing painful swellings; 194°	Anonymous	1946
<i>obsoletus</i> <i>pegborne</i> Kieffer	---; ---; 158	Vargas	1949
<i>obsoletus</i> <i>japonensis</i> (Matsumura)	---; ---; 158	Vargas	1949
<i>odiatus</i> Austen	---; in lighted tent at night; 154, 342	Austen	1921

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES odibilis</i> Austen	---; ---; 101, 118, 256, 345. (Bites man) Small reservoir, wet soil and marshland; ---; 256	Gutzevich	1960
	---; in lighted tent at night; 154	Austen	1921
	---; June-July; 256°	Olenev	1945
<i>okumensis</i> Arnaud	---; ---; 256, 257	Gutzevich	1960
<i>omogensis</i> Arnaud	---; ---; 158, 256	Gutzevich	1960
<i>onoi</i> Tokunaga	---; ---; 194	Tokunaga	1941
<i>opacus</i> Kieffer	---; ---; 337	Vargas	1949
<i>orientalis</i> Macfie	---; ---; 143, 146, 190, 277	Vargas	1949
	---; carabao-baited traps, Aug., Oct., light traps, Sept.; 242	Delfinado	1961
<i>osakensis</i> Iwata	---; ---; 158	Vargas	1949
<i>oxyetoma</i> Kieffer	---; in houses in the evenings; 76, 143, 158, 190	Tokunaga	1937
	Sluggish drain water, algae of overflowed well water; rests on wall near host; 143°	Patel	1921
	---; probable vector of Kala-azar; 143	Fletcher	1924
	---; very common; 143	Smith & Swaminath	1932
	---; ---; 242	Edwards	1929
	---; ---; 277	Causey	1938
	---; ---; 326 (Attacks man)	Gutzevich	1960
<i>palmariensis</i> Delfinado	---; collected near sea level, March; 242	Delfinado	1961
<i>pallidicornis</i> Kieffer	Wet soil in marsh forest; underzone of mixed forest, July-Aug.; 256. ---; ---; 294	Gutzevich	1960
<i>palpifer</i> des Gupta & Gosh	---; carabao-baited trap-May, July, near sea level, Oct., light trap, Sept., May; 242	Delfinado	1961
<i>pampangensis</i> Delfinado	---; from light traps, May and Sept.; 242	Delfinado	1961

TABLE 1 - MIDGEs (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>parroti</i> Kieffer	Small ponds with water plants; ---; 35, 256, 303, 317, 345	Gutzevich	1960
<i>pattoni</i> Kieffer	---; Dec.-Feb.; 122	de Mello & Afonso	1921
	---; ---; 143	Vargas	1949
<i>pegobius</i> Kieffer	---; ---; 158, 256	Kono & Takahasi	1940
<i>peliliouensis</i> Tokunaga	---; ---; 158	Tokunaga	1940
<i>peregrinus</i> Kieffer	---; ---; 76. ---; infected with filarial larvae; 277	Barnett & Toshioka	1951
	---; enters houses; 77. Small, shady, muddy pools; ---; 190	Tokunaga	1937
	Small pools near edge of lake; ---; 143	Annandale & Kemp	1916
	---; at night in corner of rooms, particularly near lighted lamp; 143°	Mukerji	1931
	In ricefield, near lakes; ---; 149	Johannsen	1931
	---; ---; 158	Tokunaga	1940
	---; carabao-baited trap, May, July, Aug., light trap, Jan.; 242	Delfinado	1961
	---; in houses; 277	Vargas	1949
<i>peregrinus</i> var. <i>assamensis</i> Smith & Swaminath	---; ---; 143	Vargas	1949
<i>peregrinus</i> <i>assoneti</i> Salm	---; ---; 146	Vargas	1949
<i>perornatus</i> Delfinado	---; near sea level, Oct.; 242	Delfinado	1961
<i>philippinensis</i> Kieffer	---; ---; 242	Vargas	1949
<i>pictipennis</i> (Staeger)	---; ---; 101, 256, 321, 345 (Bites man)	Gutzevich	1960

TABLE 1 - MIDGEs (continued).

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>pictipennis</i> <i>arcuatus</i> var. <i>nigrus</i> Tokunaga <i>poeciloptera</i>	---; ---; 194	Vargas	1949
<i>polymaculatus</i> Vinner	---; ---; 342	Vargas	1949
<i>ponkikiri</i> Kono & Takahasi	---; ---; 158, 256	Tokunaga	1940
<i>praesignis</i> Delfinado	---; near sea level, Oct.; 242	Delfinado	1961
<i>pulicaris</i> (Linnaeus)	Damp areas, in decaying vegetation and manure heaps; ---; 158	Tokunaga	1937
	---; ---; 158, 168, 194, 210, 256. (Attacks man out of doors in evening)	Barnett & Toshioka	1951
	---; bites during day and at dusk causing painful swellings; 194*	Anonymous	1946
	Fresh water pond with water plants, wet ground; active in summer and autumn, mixed forest; 256*	Gutzevich	1960
<i>pulicaris</i> var. <i>ocellaris</i> Kieffer	---; ---; 158	Tokunaga	1940
	---; ---; 194	Tokunaga	1941
	---; ---; 210	Haiao	1946
<i>pulicaris</i> <i>punctatus</i> Meigen	---; most active in the evening outdoors, inactive indoors; 158, 194	Takahasi	1941
	---; very troublesome, active out of doors in the evening; 194*	Haiao	1946
<i>pulicaris</i> <i>campanitoi</i> Kono & Takahasi	---; ---; 158	Vargas	1949
<i>pumilus</i> (Winnertz)	---; ---; 101, 121	Gutzevich	1960

TABLE 1 - MIDGEs (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>pungens</i> de Meijere	---; attracted to lamp at altitude of 1,500 meters, near water, usually bites by day, preferably in full sun, periods of abundance irregular; 146°, 149°	Salm	1914
	---; ---; 149	Johannsen	1931
	---; ---; 190°, 337	Vargas	1949
	---; March; 242	Delfinado	1961
<i>pungens</i> <i>cactoni</i> Smith	---; ---; 143	Vargas	1949
<i>puncticollis</i> Becker	---; ---; 28, 318, 326. Small temporary ponds; ---; 35	Gutzevich	1960
<i>puncticollis</i> <i>flaviturensis</i> Vimmer	---; ---; 342	Vargas	1949
<i>puncticollis</i> <i>vavrai</i> Vimmer	---; ---; 342	Vargas	1949
<i>puripennis</i> Austen	---; enters houses; 154, 342	Auster	1921
<i>quadrilobatus</i> Kieffer	---; ---; 143	Mukerji	1931
	---; ---; 337	Vargas	1949
<i>quadripunctatus</i> Coetzgebuer	---; ---; 256	Coetzgebuer	1934a
<i>quadrivittatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>quinquemaculatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>radioitus</i> Delfinado	---; from light traps, May and Sept.; 242	Delfinado	1961
<i>raripalpis</i> Smith	---; ---; 77	Tokunaga	1940
	---; ---; 143°	Smith	1929
	---; ---; 190, 277	Vargas	1949

TABLE 1 - MIGES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUT. & R	DATE
<i>CULICOIDES recurvus</i> Delfinado	---; carabao-baited trap, May, light trap, Sept.; 242	Delfinado	1961
<i>riethi</i> Kieffer	---; ---; 2, 162, 321	Gutzevich	1960
<i>saevus</i> Kieffer	---; steppe and desert like landscape; 35, 256, 326, 345	Gutzevich	1960
<i>salinarius</i> Kieffer	---; alkaline reservoirs; 101, 162, 256	Gutzevich	1960
<i>sarawakensis</i> Wirth & Hubert	---; Dec.; 242	Delfinado	1961
<i>schultzei</i> Enderlein	---; ---; 76, 143, 158, 326 (Attacks man)	Gutzevich	1960
<i>scamamotoi</i> Kono & Takahasi	---; ---; 256°	Kono & Takahasi	1940
<i>scapularis</i> Kieffer	---; ---; 337	Vargas	1949
<i>schultzei</i> (Enderlein)	---; ---; 76, 77, 158, 168, 194 ---; ---; 190 ---; from light traps, Jan., March, May, June, Aug., Sept., from carabao-baited trap, May, Aug. and Dec.; 242	Barrett & Toshioka Vargas	1951 1961
<i>schultzei</i> <i>kiefferi</i> Patton	---; ---; 143	Vargas	1949
<i>schultzei</i> <i>oxystoma</i> Kieffer	---; ---; 143	Vargas	1949
<i>schultzei</i> <i>pattoni</i> Kieffer	---; ---; 143	Vargas	1949
<i>sooticus</i> Downes & Kettle	---; ---; 256, 318	Gutzevich	1960

TABLE 1 - MIDGEES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>seffadinei</i> Dzhafarov	---; ---; 35, 256	Gutzevich	1960
<i>setiger</i> Kieffer	---; ---; 337	Vargas	1949
<i>setosus</i> Gutzevich	---; ---; 256, 321 (Attacks man at sundown)	Gutzevich	1960
<i>shermanni</i> Causey	Tree holes; ---; 277	Causey	1938
<i>shortti</i> Smith & Swaminath	---; ---; 143°	Smith & Swaminath	1932
	---; ---; 190, 277	Vargas	1949
<i>sigaensis</i> Tokunaga	---; mountainous region, occasionally bites man in the evening; 158°	Tokunaga	1937
	---; ---; 158°	Vargas	1949
<i>similis</i> Carter, Ingram & Macfie	---; ---; 31, 277	Causey	1938
	---; ---; 35, 118, 150, 256	Gutzevich	1960
	---; ---; 76, 210	Barnett & Toshioka	1951
	---; in laboratory window panes, on cattle sheds; 143°	Smith & Swaminath	1932
	---; ---; 190	Macfie	1937
<i>simulans</i> Vinner	---; ---; 342	Vargas	1949
<i>simulator</i> Edwards	---; ---; 101, 236	Gutzevich	1960
<i>sinanensis</i> Tokunaga	Forest bedding; ---; 76°, 236°	Gutzevich	1960
	---; enters houses, in mountains; 158°	Tokunaga	1937
	---; ---; 194	Vargas	1949
<i>stigma</i> (Meigen)	Buds on the roads; forest zone; 236	Gutzevich	1960
<i>stigmatous</i> Kieffer	---; June-July; 236°	Olenov	1943
<i>subfascipennis</i> Kieffer	---; ---; 101, 236 (Bites man)	Gutzevich	1960

TABLE 1 - MIDGEs (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>subneglectus</i> Vimmer	---; ---; 342	Vargas	1949
<i>sugimotonis</i> Shiraki	---; enters houses in evening; bloodsucker; 77°, 158°	Tokunaga	1937
	---; ---; 77	Vargas	1949
	---; common; 158	Tokunaga	1940
	---; ---; 194	Tokunaga	1941
	---; attracted by light into houses; 168°	Hsiao	1948
<i>sugimotonis</i> <i>alboguttatus</i> Kieffer	---; ---; 158	Vargas	1949
<i>sugimotonis</i> <i>urakawai</i> (Matsumura)	---; ---; 158	Vargas	1949
<i>sugimotonis</i> <i>shimai</i> (Sasaki)	---; ---; 158	Vargas	1949
<i>sumatrae</i> Macfie	---; ---; 149	Macfie	1934
	---; ---; 190	Macfie	1937
	---; carabao-baited trap, June, Aug., light trap, Sept.; 242	Delfinado	1961
	---; ---; 277	Causey	1938
<i>tauricus</i> Gutzevich	---; ---; 256, 321	Gutzevich	1960
<i>taiwanus</i> (Shiraki)	---; ---; 77	Vargas	1949
<i>tentorius</i> Austen	---; in lighted tent at night; 154, 342	Austen	1921
	---; ---; 256	Gutzevich	1960
<i>tobaensis</i> Tokunaga	---; ---; 158	Tokunaga	1937
<i>tripunctatus</i> Vimmer	---; ---; 342	Vargas	1949

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>t. vittatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>truncorum</i> Edwards	---; ---; 101, 118. Wet soil, sphagnum; ---; 256	Gutzevich	1960
<i>turkmenicus</i> Gutzevich	---; ---; 318 (Feeds on man)	Gutzevich	1960
<i>unguis</i> Tokunaga	---; ---; 158	Vargas	1949
<i>unicus</i> Delfinado	---; at 3300 feet elevation, at light, Sept.; 242	Delfinado	1961
<i>univittatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>verbosus</i> Tokunaga	---; at light, in house; 77	Tokunaga	1937
	---; ---; 158	Tokunaga	1940
<i>vexans</i> Staeger	Wet soil, between bushes and under trees; 256°, 321, 345	Gutzevich	1960
<i>vitreipennis</i> Austen	---; in lighted tent at night; 154, 342	Austen	1921
<i>wenigi</i> Vimmer	---; ---; 342	Vargas	1949
<i>wenseli</i> Delfinado	---; from light traps, May; 242	Delfinado	1961
<i>xanthocoma</i> Kieffer	---; ---; 143	Vargas	1949
<i>LASIOHELEA</i>			
<i>stimulans</i> de Meijere	---; ---; 70°, 149°	Tokunaga	1937
<i>taiwana</i> Shiraki	---; ---; sucks blood from man; 158°	Tokunaga	1940
	---; ---; 158*	Tokunaga	1937
<i>LEPTOCONOPS</i>			
<i>bessii</i> Noé	---; ---; 35, 256 (Bites man)	Gutzevich	1960
<i>bidentatus</i> Gutzevich	---; ---; irritating on face, eyes, ears; 154, 159	Buxton	1924
	---; ---; 256°	Gutzevich	1960

TABLE 1 - MIDGEES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LEPTOCONOPS borealis</i> Gutzevich	---; Aug.; 162, 256, 318, 321	Gutzevich	1960
<i>camelorum</i> Kieffer	---; ---; 256 (Bites man)	Gutzevich	1960
<i>caucasicus</i> Gutzevich	---; ---; 35 (Attacks man)	Gutzevich	1960
<i>flaviventris</i> Kieffer	---; ---; 350	Carter	1921
<i>indicus</i> Kieffer	---; ---; 143	Carter	1921
<i>kerteszi</i> Kieffer	Salt marshes; ---; 210°	Barnett & Toshioka	1951
<i>nipponensis</i> Tokunaga	---; ---; 158	Tokunaga	1937
<i>siamensis</i> Carter	---; ---; 277	Carter	1921
<i>STYLOCONOPS spinosifrons</i> (Carter)	---; ---; 190	Macfie	1934a
<i>TERSESTHES luteigaster</i> Senior-White	---; on seashore; 122°	Senior-White	1929
<i>mesopotamensis</i> Theobald	---; tents during the heat of day; 151°	Patton	1920
<i>TRICHOTANYPUS tiberiae</i>	---; ---; 342°	Anonymous	1944

ADDENDA

<i>CULICOIDES fascipennis</i> (Staeger)	---; ---; 256	Blagovesh- chenskii	1930
<i>nubeculosus</i> (Meigen)	---; ---; 256°	Blagovesh- chenskii	1930
<i>sugimotonis</i> Shiraki	Puddles; ---; 256	Gutzevich	1947

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY MIDGES

SPECIES	DISEASE OR DISEASE ORGANISMS					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>CERATOPOGON</i> <i>taiwanus</i> (Shiraki)					Edematose swelling	77
<i>CULICOIDES</i> <i>amamensis</i> Tokunaga					Edematose swelling	158
<i>maculatus</i> (Shiraki)					Edematose swelling	158
<i>nubeculosus</i> Meigen					Edematose swelling	158
<i>obsoletus</i> Meigen					Edematose swelling	158
<i>pungens</i> de Meijere				Onchocerca gibsoni		190
<i>LASIOHELEA</i> <i>taiwana</i> Shiraki					Edematose swelling	158

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E. HORSE FLIES

The entries for horse flies (Tabanidae) include very little biology. Most of the literature on this large and important group is concerned with taxonomy, a lesser amount on distribution and no disease transmission was recorded.

The synonymy, both at the genus and the species level, is very complex. Several specialists are currently striving to straighten out some of these problems.

In the table are listed 1132 species or subspecies, but it is certain that many of these are not valid names.

TABLE 1 - HORSE FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APLOCOCERA</i> <i>caucasica</i> (Enderlein)	---; ---; 345	Enderlein	1934
<i>decora</i> (Loew)	---; ---; 302	Enderlein	1934
<i>himalayana</i> (Enderlein)	---; ---; 31	Enderlein	1934
<i>panirensis</i> (Enderlein)	---; ---; 162	Enderlein	1934
<i>ATYLOTUS</i> <i>abasus</i> Bigot	---; ---; 150, 345	Kröber	1924a
	---; ---; 162	Kröber	1928
<i>alazinus</i> Bigot	---; ---; 345	Kröber	1923
<i>alexandrinus</i> Wiedemann	---; ---; 174, 302, 342	Kröber	1924a
<i>argenteo-</i> <i>maculatus</i> Kröber	---; ---; 326	Kröber	1928
<i>armeniae</i> Kröber	---; ---; 28	Kröber	1928
<i>ater</i> Rossi	---; ---; 317	Kröber	1928
	---; ---; 350	Kröber	1924a
<i>bifarius</i> Loew	---; ---; 256, 317, 321, 350, 354	Kröber	1924a
<i>bivittatus</i> Matsumura	---; ricefields; 77. ---; May-Aug.; 150	Shiraki	1918
<i>carabaghensis</i> Portchinsky	---; ---; 31, 150, 162, 345	Kröber	1924a
<i>orassineriae</i> Villeenue	---; ---; 256, 318, 354	Kröber	1924a
<i>erberi</i> Brauer	---; ---; 256, 354	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ATYLOTUS</i> <i>fulvus</i> Meigen	---; ---; 76. ---; June-Sept.; 158	Shiraki	1918
<i>gigas</i> Herbst	---; ---; 256, 302, 317, 342, 350, 354	Kröber	1924a
<i>insecutor</i> Austen	---; ---; 154, 302, 342	Kröber	1924a
<i>labaeanus</i> Enderlein	---; ---; 350	Kröber	1939
<i>lunatus</i> Fabricius	---; ---; 150, 154, 302, 342, 345, 350	Kröber	1924a
<i>negativus</i> Ricardo	---; ---; 77, 139	Shiraki	1918
<i>nemoralis</i> Meigen	---; ---; 302, 342	Kröber	1924a
<i>pecularis</i> Szilády	---; ---; 152	Kröber	1924a
<i>pusillus</i> Egger	---; ---; 317, 350	Kröber	1924a
<i>quatuornotatus</i> Meigen	---; ---; 256, 354	Kröber	1924a
<i>rusticus</i> Enderlein	---; ---; 158	Shiraki	1918
<i>rusticus</i> <i>niger</i> Enderlein	---; ---; 356	Coffe	1931
<i>rusticus</i> <i>parallefrons</i> Szilády	---; ---; 256	Coffe	1931
<i>sabulorum</i> Loew	---; ---; 31, 150, 162, 256, 345, 354	Kröber	1924a
<i>tauricus</i> Enderlein	---; ---; 350	Kröber	1939
<i>tricolar</i> Zeiller	---; ---; 150, 162, 256, 317, 345, 354	Kröber	1924a
<i>umbritinus</i> Meigen	---; ---; 317, 350	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BAIKALIA</i> <i>vallanti</i> Surcouf	---; ---; 256	Kröber	1924a
<i>BUPLEX</i> <i>basini</i> Surcouf	---; ---; 76 ---; ---; 144	Seguy Surcouf	1934 1923
<i>CHASMIELLA</i> <i>polysona</i> Szilády	---; ---; 143	Szilády	1926
<i>CHrysops</i> <i>albicincta</i> van der Wulp	---; ---; 147	Schuurmans Stekhoven	1926
<i>alter</i> Rondani	---; ---; 145	Schuurmans Stekhoven	1926
<i>amurensis</i> Pleske	---; ---; 256	Kröber	1920
<i>angaricus</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939
<i>anthrax</i> Olsuf'ev	---; ---; 256	Olsuf'ev	1937
<i>atrisignata</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>atrivittata</i> Schuurmans Stekhoven	---; marsh; 147	Schuurmans Stekhoven	1926
<i>basalis</i> Shiraki	---; ---; 76	Hwang	1936
	---; Aug., in shrubs near mountain-stream; 158	Shiraki	1918
<i>beckeri</i> Kröber	---; ---; 162, 256	Kröber	1920
<i>binoculatus</i> Szilády	---; ---; 256	Kröber	1925
<i>buxtoni</i> Austen	---; ---; 151 ---; ---; 154. ---; May, June; 159 ---; ---; 342	Kröber Buxton Bodenheimer	1925 1924 1937
<i>caecutiens</i> Linnaeus	---; ---; 28 Forest, edge of lake; rarely bite on first alighting, June and Aug.; 256° ---; May-June; 256. ---; ---; 345 ---; ---; 302	Kröber Fraser Olsuf'ev Kröber	1939 1920 1937 1920

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops</i> <i>cascatiense</i> var. <i>ludens</i> Loew	---; ---; 350	Kröber	1919
<i>cincta</i> Bigot	---; ---; 190	Schuurmans Stekhoven	1926
	---; ---; 242	Schuurmans Stekhoven	1924
<i>olavicus</i> Thompson	---; ---; 190	Schuurmans Stekhoven	1924
<i>compactus</i> Austen	---; ---; 151	Kröber	1925
	---; ---; 154, 159	Austen	1924
	---; ---; 342	Bodenheimer	1937
<i>concaurus</i> Loew	---; ---; 256*	Skufin	1949
	---; ---; 256	Kröber	1920
<i>designata</i> Ricardo'	---; ---; 76, 143, 218	Wu	1940
<i>dispar</i> (Fabricius)	---; ---; 59, 70, 76, 133, 143, 144, 146, 149, 199, 350. ---; active in evening, occasionally bites man, 5-6 p.m.; 77*	Shiraki	1918
	---; ---; 59, 133, 139, 218, 280. ---; common; 70, 76, 77, 143, 144, 146, 149, 158, 190, 277, 366 (All year)	Schuurmans Stekhoven	1926
	---; ---; 122	Senior-White	1927
	---; ---; 139, 185	Wwang	1936
	---; ---; 143, 242	Wu	1940
	Fish ponds, open and forest pools and streams; ---; 146, 149	Mieschulz	1926
	---; ---; 235	Schuurmans Stekhoven	1931
	---; ---; 256	Kröber	1920
<i>dissectus</i> Loew	---; ---; 166, 168, 194, 236, 353	Kono & Takahasi	1939*
<i>dissectus</i> var. <i>amurensis</i> Pleske	---; ---; 256	Kröber	1939
<i>dissectus</i> <i>mongolicus</i> Szilády	---; ---; 353	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops</i> <i>divaricatus</i> Loew	---; ---; 256° ---; ---; 256	Skufin	1949
<i>fasciata</i> Wiedemann	---; ---; 11, 59, 143, 145, 146, 149, 190	Kröber	1920
<i>fasciatus</i> Wiedemann	---; ---; 70, 145, 146, 149, 190, 277 ---; ---; 147	Schuurmans Stekhoven	1926
<i>fixissimus</i> Walker	---; ---; 70, 145, 146, 149, 190, 280 (Nov.-Apr.) ---; ---; 242	Nieschulz	1935
<i>flaviceps</i> Meigen	---; ---; 235	Senior-White	1927
<i>flavipes</i> Meigen	---; ---; 143, 366 ---; ---; 150, 302 ---; ---; 162, 166, 256, 354 ---; ---; 256° ---; ---; 317 ---; ---; 350	Schuurmans Stekhoven	1926
<i>flavipes</i> <i>askahabadensie</i> Szilády	---; ---; 318	Kröber	1920
<i>flavipes</i> var. <i>beckeri</i> Kröber	---; ---; 162	Olsuf'ev	1937
<i>flavipes</i> <i>punctifer</i> Loew	---; ---; 150, 302, 342, 345, 350 ---; ---; 318, 326	Skufin	1949
<i>flaviventris</i> Macquart	---; ---; 70, 143, 146, 149	Austen	1925
<i>flavocinctus</i> (Ricardo)	---; ---; 59 ---; ---; 70, 145. ---; common, Nov.; 143 ---; ---; 144 ---; ---; 190 ---; mountain region, enter houses, bite causes swelling and itching; 277°	Schuurmans Stekhoven	1922
		Austen	1928
		Senior-White	1927
		Austen	1922

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops</i> <i>hamatus</i> Loew	---; ---; 302, 317 ---; ---; 350	Kröber	1920 1925
<i>hermanni</i> Kröber	---; ---; 35, 256	Kröber	1920
<i>horvathi</i> Szilády	---; ---; 350	Kröber	1939
<i>hyalipennis</i> Stackelberg	---; ---; 318, 354 ---; ---; 326	Stackelberg Olsuf'ev	1926 1937
<i>indianus</i> Ricardo	---; ---; 143, 366	Schuursmans Stekhoven	1926
<i>interruptus</i> Kröber	---; ---; 28, 118, 150, 256, 317, 345	Kröber	1920
<i>italicus</i> Meigen	---; ---; 150, 302, 317 ---; ---; 256, 321, 345 ---; ---; 350	Kröber Olsuf'ev Kröber	1920 1937 1925
<i>italicus</i> var. <i>nigriventris</i> Loew	---; ---; 302 ---; ---; 350	Kröber	1920 1939
<i>japonicus</i> Wiedemann	---; ---; 76 ---; ---; 77 ---; pastures, fields, ricefields, May-Aug.: 158 ^a ---; ---; 158, 256	Hwang Kröber Shiraki Schuursmans Stekhoven	1936 1920 1918 1931
<i>lapponicus</i> Loew	---; ---; 31 ---; ---; 256	Kröber	1925 1920
<i>loewi</i> Kröber	---; ---; 256	Kröber	1920
<i>ludens</i> Loew	---; ---; 302 ---; ---; 350	Kröber	1920 1925
<i>maculiventris</i> Becker	---; ---; 150	Kröber	1920

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops</i> <i>makerovi</i> Pleske	---; ---; 256	Kono & Takahasi	1939
<i>manilensis</i> Schiner	---; ---; 242	Bezzi	1913
<i>maculatus</i> Siebke	---; ---; 76, 256	Kröber	1920
<i>młokosiewiczi</i> Bigot	---, ---, 28, 194	Kröber	1920
	---; ---; 31, 76, 139, 150, 158, 256, 345	Wu	1940
	---; April-August; 77	Shiraki	1918
<i>młokosiewiczi</i> var. <i>obscurus</i> Kröber	--; ---; 76	Kröber	1939
	---; ---; 345	Kröber	1923
<i>młokosiewiczi</i> var. <i>oxianus</i> Pleske	---; ---; 76	Kröber	1939
<i>młokosiewiczi</i> var. <i>der-wulpi</i> Kröber	---; ---; 76, 77, 158, 168, 194	Kono & Takahasi	1939b
<i>mongolicus</i> Szilády	---; ---; 353	Wu	1940
<i>norna</i> (Olsuf'ev)	---; ---; 256	Anonymous	1944a
<i>nigricornis</i> Matsumura	---; ---; 158	Kröber	1925
	---; ---; 256	Shiraki	1918
<i>nigripes</i> Zetterstedt	---; ---; 194, 256	Kono & Takahasi	1939
	---; ---; 256*	Gutzevich	1947
<i>nigripes</i> var. <i>lapponicus</i> Loew	---; ---; 256	Kröber	1939
<i>nigripes</i> var. <i>nigricornis</i> Matsumura	---; ---; 158	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops</i> <i>oxianus</i> Pleske	---; ---; 31, 76 ---; ---; 162 ---; ---; 256, 326	Heino Stackelberg Kröber	1945 1926 1920
<i>parallogrammus</i> Zeller	---; ---; 256	Sassuchin et al.	1930
<i>pellucidus</i> Fabricius	---; ---; 143, 366	Schuurmans Stekhoven	1926
<i>pettigrewi</i> Ricardo	---; ---; 143	Senior-White	1927
<i>pictus</i> Meigen	---; ---; 256° ---; ---; 256	Skufin Olsuf'ev	1949 1937
<i>pluvialis</i> Linnaeus	---; ---; 345	Olsuf'ev	1937
<i>potanini</i> Pleske	---; ---; 76, 158	Heino	1945
<i>przewalskii</i> Pleske	---; ---; 76 ---; ---; 210, 353	Kröber Wu	1920 1940
<i>pseudoricardiae</i> Kröber	---; ---; 162, 256	Kröber	1920
<i>punctifer</i> Loew	---; ---; 154 ---; ---; 174, 302 ---; ---; 317° ---; ---; 342, 350	Austen Kröber Anonymous Kröber	1922b 1920 1944 1925
<i>punctifer</i> <i>abdominalis</i> Kröber	---; ---; 302	Kröber	1920
<i>punctifera</i> Loew	Along creeks and watercourses; Apr.-May; 151 ---; ---; 154°, 159°, 302, 342°. ---; marshes; 174 ---; October; 154. ---; April-September; 159, 174 ---; ---; 342	Patton Austen Buxton Bodenheimer	1920 1920 1924 1937
<i>quadratus</i> Meigen	---; ---; 256 ---; ---; 345	Kröber Olsuf'ev	1920 1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops</i> <i>relictus</i> Meigen	---; ---; 162	Olsuf'ev	1937
	---; ---; 256°	Skufin	1949
	---; ---; 256	Kröber	1920
<i>ricardoae</i> Pleske	---; ---; 162, 353	Olsuf'ev	1937
	---; ---; 210	Hsiao	1945
	---; ---; 256	Kröber	1920
<i>ricardoae</i> var. <i>przewalskii</i> Pleske	---; ---; 76	Kröber	1939
<i>ricardoae</i> var. <i>pseudoricardoae</i> Kröber	---; ---; 162	Kröber	1939
<i>ricardoae</i> var. <i>wagneri</i> Pleske	---; ---; 256	Kröber	1939
<i>rufipes</i> Meigen	---; ---; 256 (May bite man)	Olsuf'ev	1937
<i>sakhalinensis</i> Pleske	---; ---; 77, 158, 256	Kröber	1920
<i>sejunctus</i> Szilády	---; ---; 28, 321	Kröber	1939
	---; ---; 256	Kröber	1925
	---; ---; 345	Olsuf'ev	1937
<i>semitignitus</i> Kröber	---; ---; 76	Kröber	1939
<i>sepulcralis</i> Fabricius	---; ---; 256	Edwards et al.	1939
<i>sepulcralis</i> var. <i>maurus</i> Siebke	---; ---; 256	Kröber	1939
<i>signifer</i> Walker	---; ---; 145, 242	Schuurmans Stekhoven	1928
	---; Aug.; 147	Schuurmans Stekhoven	1926
<i>simillimus</i> Austen	---; ---; 150, 151	Austen	1923

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops sinensis</i> Walker	---; ---; 76, 138. ---; May-Nov.; 77 ^a ---; ---; 77 ---; ---; 139 ---; ---; 256	Shiraki Hsiao Hwang Kröber	1918 1945 1936 1920
<i>sinensis</i> var. <i>balteatus</i> Szilády	---; ---; 76	Hwang	1936
<i>stackelbergi</i> Olsuf'ev	---; ---; 162	Olsuf'ev	1937
<i>stimulans</i> Walker	Shallow water by a river bank; March-April; 143 ---; Nov.-Dec., Feb.; 143 ---; ---; 366	Fletcher Fletcher Schuurmans Stekhoven	1916 1920 1926
<i>striata</i> van der Wulp	---; ---; 139	MacFarlane	1915
<i>suavis</i> Loew	---; ---; 76, 77 ---; July- 158. ---; ---; 256 ---; ---; 168	Wu Shiraki Hsiao	1940 1918 1948
<i>suavis</i> <i>sakhalinensis</i> Pleske	---; ---; 158, 256	Kono & Takahasi	1939
<i>suavis</i> <i>suavis</i> Loew	---; ---; 158, 168, 194, 256, 353	Kono & Takahasi	1939a
<i>sinensis</i> Walker	---; ---; 77	Schuurmans Stekhoven	1926
<i>stackelbergi</i> Olsuf'ev	---; ---; 162	Kröber	1939
<i>szechuanensis</i> Kröber	---; ---; 76	Kröber	1934
<i>translucens</i> Macquart	---; ---; 145 ---; ---; 190	Schuurmans Stekhoven	1932 1926
<i>turanicus</i> Olsuf'ev	---; ---; 318, 326	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHrysops</i>			
<i>v-nigrum</i> de Meijere	---; ---; 77	Szilády	1922
<i>validus</i> Loew	---; ---; 168, 194, 256	Kono & Takahasi	1939a
<i>vander-wulpi</i> Kröber	---; ---; 256	Olsuf'ev	1937
<i>vitripennis</i> Meigen	---; ---; 28, 118, 345	Kröber	1920
<i>wagneri</i> Pleske	---; ---; 256	Kröber	1920
<i>CHrysozona</i>			
<i>antennata</i> Shiraki	---; ---; 158, 168	Kono & Takahasi	1939a
<i>aquilina</i> Séguy	---; ---; 76	Séguy	1934
	---; ---; 144	Hwang	1936
<i>araxis</i> Szilády	---; ---; 345	Kröber	1925
<i>atrata</i> (Szilády)	---; ---; 76	Haiao	1945
<i>caenofrons</i> Kröber	---; ---; 345	Kröber	1925
<i>caucasicica</i> Kröber	---; ---; 345	Kröber	1925
<i>crassicornis</i> Wahlberg	---; May-June; 256. ---; ---; 345	Olsuf'ev	1937
	---; ---; 256°	Skufin	1949
<i>crassicornis</i> var. <i>flavopilosa</i> Kröber	---; ---; 256	Kröber	1939
<i>desertorum</i> Szilády	---; ---; 256°	Gutzevich	1947
	---; ---; 256	Kröber	1925
<i>flavopilosa</i> Kröber	---; ---; 256	Kröber	1925
<i>formosana</i> Shiraki	---; common; 77	Shiraki	1932
<i>fusicornis</i> Becker	---; ---; 256	Kröber	1959

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOZONA</i>			
<i>grandis</i> Macquart	---; ---; 321	Olsuf'ev	1937
<i>grandis</i> Szilády	---; ---; 166	Olsuf'ev	1937
<i>hedini</i> Kröber	---; ---; 353	Kröber	1934
<i>hispánica</i> Szilády	---; ---; 256 ^o	Skufin	1949
	---; ---; 256	Olsuf'ev	1937
<i>innominata</i> Austen	---; ---; 342	Kröber	1925
<i>italica</i> Meigen	---; ---; 256	Kröber	1939
<i>italica</i> var. <i>variegata</i> Fabricius	---; ---; 317	Kröber	1939
<i>kansuensis</i> Kröber	---; ---; 76	Kröber	1934
<i>kemali</i> Szilády	---; ---; 350	Kröber	1925
<i>koryoensis</i> Shiraki	---; ---; 168	Barnett & Toshioka	1951
<i>lata</i> (Ricardo)	---; ---; 59, 76, 143, 149	Hsiao	1945
<i>longiantennata</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>lunulata</i> Macquart	---; ---; 76, 146	Séguy	1934
	---; ---; 242	Bezzì	1913
<i>minuscula</i> Austen	---; ---; 342	Kröber	1939
<i>minuscularia</i> Austen	---; ---; 342	Kröber	1925
<i>minuscularia</i> <i>turkestanica</i> Szilády	---; ---; 256	Kröber	1925
<i>nana</i> Olsuf'ev	---; ---; 168	Barnett & Toshioka	1951
	---; ---; 256	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOZONA</i>			
<i>obscurata</i> Bigot	---; ---; 150, 345	Kröber	1939
<i>ornata</i> Kröber	---; ---; 77	Kröber	1922
<i>pallens</i> Loew	---; ---; 162	Kröber	1928
	---; ---; 256, 321, 345. ---; common; 354	Olsuf'ev	1937
<i>pallidula</i> Kröber	---; ---; 256	Kröber	1925
<i>peculiaris</i> Kono & Takahasi	---; ---; 168	Barnett & Toshioka	1951
<i>pluvialis</i> Linnaeus	---; ---; 158	Kröber	1922
	---; ---; 256	Olsuf'ev	1937
	---; June-August; 256°	Skufin	1949
<i>pungens</i> Doleschall	---; ---; 144	Séguy	1934
<i>rufipennis</i> Bigot	---; ---; 158	Kröber	1923
<i>sakhalinensis</i> (Shiraki)	---; ---; 256	Kono & Takahasi	1939
<i>sewelli</i> Austen	---; ---; 342	Kröber	1939
<i>sinensis</i> Ricardo	---; ---; 76	Hwang	1936
<i>sobrina</i> Kröber	---; ---; 350	Kröber	1925
<i>eurooufi</i> Kröber	---; ---; 76	Hwang	1936
<i>tamerlani</i> Szilady	---; ---; 168, 194, 256, 353	Kono & Takahasi	1939a
<i>tristis</i> (Bigot)	---; ---; 158, 170, 256	Kono & Takahasi	1939
	---; ---; 168	Barnett & Toshioka	1951
<i>turkestanica</i> Kröber	---; ---; 162, 256	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOZONA</i>			
<i>ustulata</i> Kröber	---; ---; 76	Kröber	1934
<i>vaillanti</i> Surcouf	---; ---; 256	Kröber	1925
<i>yamadai</i> Shiraki	---; ---; 194	Hiiso	1946
<i>CORIZONEURA</i>			
<i>caucasica</i> Kröber	---; ---; 345	Kröber	1925
<i>longirostris</i> Hardwicke	---; 5000 feet and 7500 feet elevation, July-Sept.; 143	Fletcher & Sen	1931
<i>oritensis</i> Bigot	---; ---; 345	Kröber	1923
<i>taprobanes</i> Walker	---; ---; 76	Senior-White	1927
	---; ---; 143	Fletcher & Sen	1931
	---; ---; 349	de Mello & Afonso	1921
<i>tigris</i> Bigot	---; ---; 150, 345	Kröber	1925
<i>varipes</i> (Ricardo)	---; ---; 142	Schuurmans Stekhoven	1932b
<i>yescensis</i> Shiraki	--- ---; 158	Shiraki	1918
<i>sonata</i> Walker	---; ---; 25	Kröber	1925
<i>CYDISTONYIA</i>			
<i>alvensis</i> Oldroyd	---; ---; 147	Oldroyd	1948
<i>DASYRRHAMPHIS</i>			
<i>ater</i> Rossi	---; ---; 350	Kröber	1930
<i>DASYSTYPIA</i>			
<i>bivittata</i> (Matsumura)	---; ---; 76	Soguy	1934
<i>labameana</i> Enderlein	---; ---; 350	Kröber	1925
<i>rustica</i> <i>nigra</i> Enderlein	---; ---; 256	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DIACLORUS</i> <i>flavipennis</i> Macquart	---; ---; 242	Krüber	1924
<i>fulvescens</i> Brunetti	---; ---; 141	Senior-White	1927
<i>EUCCOMPSA</i> <i>tectivallosa</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>GASTROIDES</i> <i>ater</i> Saunders	Muck in tree holes; June, July; 143 ---; Nov.-Jan.; 143	Isaac Fletcher	1925 1923
<i>aterrimus</i> Schuurmans Stekhoven	---; ---; 190	Schuurmans Stekhoven	1926
<i>atricinctus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1928
<i>fuscus</i> Schuurmans Stekhoven	---; ---; 190	Schuurmans Stekhoven	1926
<i>ormatus</i> Bigot	---; ---; 70	Senior-White	1927
<i>HAEMATOBIA</i> <i>stimilans</i> Meigen	---; ---; 294	Breev	1958
<i>HAEMATOPUTA</i> <i>albofasciatipennis</i> Brunetti	---; ---; 143	Senior-White	1927
<i>angustisegmentata</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>annandalei</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>annulipes</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>assamensis</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>atomaria</i> Walker	---; ---; 145	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>atrata</i> Szilády	---; ---; 76	Wu	1940
<i>atriventer</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>beesonii</i> Senior-White	---; ---; 59, 143	Senior-White	1922
<i>belligera</i> Austen	---; ---; 317	Austen	1925
<i>bilineata</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>biroi</i> Szilády	---; ---; 143	Szilády	1926
<i>bizonata</i> Schuurmans Stekhoven	---; ---; 145, 146	Schuurmans Stekhoven	1932b
<i>borneana</i> Rondani	---; ---; 145	Schuurmans Stekhoven	1926
<i>brevis</i> Ricardo	---; ---; 70, 143, 218, 366	Schuurmans Stekhoven	1926
<i>burmanica</i> Senior-White	---; ---; 59, 143	Senior-White	1922
<i>cana</i> Walker	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>oilipes</i> Bigot	---; ---; 59, 144, 277	Schuurmans Stekhoven	1926
<i>cingalensis</i> Ricardo	---; ---; 70, 143, 218, 366	Schuurmans Stekhoven	1926
<i>cingulata</i> Wiedemann	---; in jungle; 146	Schuurmans Stekhoven	1928
<i>confluens</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>coronata</i> Austen	---; ---; 2, 332	Oldroyd	1952
	---; ---; 154	Oldroyd	1957
<i>crassicornis</i> Wahlberg	---; ---; 143	Isaac	1925a
	---; ---; 256	Blagovesh- chenskii	1930

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>demellonis</i> Senior-White	---; ---; 122, 143	Senior-White	1927
<i>desertorum</i> Szilády	---; ---; 256	Szilády	1923
<i>dissimilis</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>elegans</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>ensifer</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>equitibiata</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>fasciata</i> Ricardo	---; ---; 59	Szilády	1926
	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>flavicornis</i> Szilády	---; ---; 143	Szilády	1926
<i>formosana</i> Shiraki	---; ---; 77°, 256	Shiraki	1918
<i>fraseri</i> Austen	---; ---; 317	Austen	1925
	---; ---; 342	Bodenheimer	1937
<i>furigata</i> Schuurmans Stekhoven	---; Nov.-Dec.; 146	Schuurmans Stekhoven	1926
<i>fuscifrons</i> (Austen)	---; ---; 59	Senior-White	1927
	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>hindostani</i> Ricardo	---; ---; 143	Senior-White	1927
<i>hispanica</i> Szilády	---; ---; 256	Leclercq	1961
	---; ---; 345	Kalugin	1945
<i>immaculata</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
	---; ---; 146	Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>inconspicua</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>indiana</i> Bigot	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>indianus</i> Ricardo	---; ---; 122	Senior-White	1927
<i>innominata</i> Austen	---; May, June; 154, 159	Buxton	1924
	---; ---; 342	Austen	1922b
<i>intermedia</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>irregularis</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>irrorata</i> Macquart	---; ---; 145, 146, 149, 190	Schuurmans Stekhoven	1926
<i>irrorata</i> <i>cristata</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>jacobsoni</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>javana</i> Wiedemann	---; July-Aug.; 59. ---; ---; 143, 144, 146, 190, 218. ---; all year; 149	Schuurmans Stekhoven	1926
	---; ---; 145	Senior-White	1927
	---; ---; 277	Schuurmans Stekhoven	1928
<i>kemali</i> Szilády	---; ---; 350	Szilády	1923
<i>lata</i> Ricardo	---; ---; 59, 143, 144, 218, 366	Schuurmans Stekhoven	1926
	---; ---; 76, 149	Wu	1940
<i>latebricola</i> Austen	---; ---; 317	Austen	1925
<i>lutifascia</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
HAEMATOPOTA			
<i>limbata</i> Bigot	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>litoralis</i> Ricardo	---; ---; 143	Senior-White	1927
<i>lunulata</i> Macquart	---; ---; 145	Schuurmans Stekhoven	1932b
	---; ---; 146, 149, 190	Schuurmans Stekhoven	1926
<i>macer</i> Bigot	---; ---; 122	Senior-White	1927
<i>maculata</i> de Meijere	---; ---; 146	Schuurmans Stekhoven	1926
<i>malayensis</i> Ricardo	---; ---; 190	Schuurmans Stekhoven	1926
<i>marginata</i> Ricardo	---; ---; 70	Schuurmans Stekhoven	1926
	---; ---; 143	Senior-White	1927
<i>mediatrifrons</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1928
	---; ---; 149, 190	Schuurmans Stekhoven	1926
<i>minuscula</i> Austen	---; ---; 159	Austen	1920
	---; ---; 256	Szilády	1923
	---; ---; 342	Bodenheimer	1937
<i>minuscula</i> var. <i>turkestanica</i> Szilády	---; ---; 162	Szilády	1923
<i>minuscularia</i> Austen	---; ---; 159 ^o	Austen	1920
	---; ---; 342	Bodenheimer	1937
<i>mirabilis</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>montana</i> Ricardo	---; ---; 143	Patton	1922
<i>nigricans</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>nigrita</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>pachycera</i> Bigot	---; ---; 59, 144, 190, 277	Schuurmans Stekhoven	1926
<i>paucipunctata</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
	---; ---; 149	Schuurmans Stekhoven	1928
<i>pluvialis</i> Linnaeus	---; ---; 101	Dampf	1924
	---; ---; 143	Isaac	1925a
	---; ---; 162, 256	Sassuchin et al.	1930
	---; June; 256°	Fraser	1920
	---; ---; 345	Kalugin	1945
<i>punctifera</i> Bigot	---; ---; 146	Schuurmans Stekhoven	1926
<i>pungens</i> Doleschall	---; ---; 145, 146, 149	Schuurmans Stekhoven	1926
<i>rhizophorae</i> Senior-White	---; ---; 143	Senior-White	1927
<i>ricardonis</i> Senior-White	---; ---; 70	Senior-White	1925
<i>ruralis</i> Fabricius	---; ---; 70, 145, 146, 218, 366	Schuurmans Stekhoven	1926
	---; Aug.; 143	Fletcher	1930
	---; ---; 190	Roy & Brown	1954
<i>rubida</i> Ricardo	---; ---; 59, 144, 190, 277	Schuurmans Stekhoven	1926
<i>rufipennis</i> Bigot	---; ---; 158	Shiraki	1918
<i>sakhalinensis</i> Shiraki	---; ---; 256	Shiraki	1918
<i>sewelli</i> Austen	---; in marsh; 154°. ---; on river bank; 159°	Austen	1920
	---; ---; 342	Anonymous	1944b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>sinensis</i> Ricardo	---; ---; 76	Schuurmans Stekhoven	1931
<i>singularis</i> Ricardo	---; ---; 59, 144, 277	Schuurmans Stekhoven	1926
<i>splendens</i> Schuurmans Stekhoven	---; ---; 190	Schuurmans Stekhoven	1926
<i>stantoni</i> Ricardo	---; ---; 190	Ricardo	1916
<i>striatipennis</i> (Brunetti)	---; ---; 143	Senior-White	1922
<i>tenasserimi</i> Szilády	---; ---; 59	Szilády	1926
<i>tenasserimi</i> var. <i>tonkiniana</i> Szilády	---; ---; 144	Szilády	1926
<i>tessellata</i> Ricardo	---; ---; 70	Schuurmans Stekhoven	1926
<i>tristis</i> Bigot	---; May-Sept.; 158°	Shiraki	1918
<i>truncata</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>tuberculata</i> de Meijere	---; ---; 146	Schuurmans Stekhoven	1926
<i>turkestanica</i> Kröber	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
<i>unisonata</i> Ricardo	---; ---; 70, 190	Schuurmans Stekhoven	1926
	---; ---; 143, 149	Senior-White	1927
<i>unisonata</i> <i>mathesonii</i> Szilády	---; ---; 143	Szilády	1926
<i>variegata</i> var. <i>rotunda</i> Szilády	---; ---; 31	Szilády	1923
<i>yamadai</i> (Shiraki)	---; ---; 194	Wu	1940

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HEPTOTOMA</i> <i>pellucens</i> Fabricius	---; ---; 256 (Blood sucker)	Olsuf'ev	1937
<i>HETEROCHRYOPS</i> <i>mlokosiewiczi</i> Bigot	---; ---; 76, 158	Séguy	1934
<i>ISSHIKIA</i> <i>japonica</i> Bigot	---; ---; 158	Kröber	1924a
<i>trifaciata</i> Szilády	---; ---; 158	Shiraki	1932
<i>LISSIMAS</i> <i>moestus</i> Szilády	---; ---; 145	Szilády	1926
<i>MELISSOMORPHA</i> <i>indiana</i> Ricardo	---; ---; 143	Senior-White	1927
<i>NANORRHYNCHUS</i> <i>crassinervis</i> Kröber	---; ---; 318, 354	Kröber	1939
	---; ---; 326	Olsuf'ev	1937
<i>NEMORIUS</i> <i>vitripennis</i> Meigen	---; ---; 345	Kröber	1925
<i>NEOBOLBODIMYIA</i> <i>argentata</i> Szilády	---; ---; 145	Szilády	1926
<i>lacticornis</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>NEOCHRYOPS</i> <i>grandis</i> Szilády	---; ---; 77	Szilády	1922
<i>NEOTABANUS</i> <i>ceylonicus</i> Ricardo	---; ---; 70	Senior-White	1927
<i>NUCERIA</i> <i>longirostris</i> Hardwicke	---; ---; 143	Schuurmans Stekhoven	1932b
<i>taprobanes</i> (Ricardo)	---; ---; 70	Schuurmans Stekhoven	1932b
<i>varipes</i> (Ricardo)	---; ---; 31, 143	Schuurmans Stekhoven	1932b
<i>OCHROPS</i> <i>adjacens</i> Ricardo	---; ---; 28, 150, 345	Kröber	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OCHROPS</i>			
<i>agrestis</i>	---; ---; 25, 162	Kröber	1924a
Wiedemann	---; ---; 256	Kröber	1925
<i>agricola</i>	---; ---; 25, 77, 139, 158, 342	Kröber	1924a
Wiedemann			
<i>albicoxa</i>	---; ---; 25	Kröber	1924a
Macquart			
<i>albopruinosus</i>	---; ---; 151	Kröber	1925
Szilády			
<i>angusticornis</i>	---; ---; 77, 158	Kröber	1924a
Loew			
<i>austeni</i>	---; ---; 28, 150, 317, 345	Kröber	1924a
Szilády			
<i>austeni</i>	---; ---; 28, 150, 317, 345	Kröber	1924a
var. <i>trifasciatus</i>	Szilády		
<i>austeni</i>	---; ---; 28, 150, 317, 345	Kröber	1924a
var. <i>unifasciatus</i>	Szilády		
<i>bivittatus</i>	---; ---; 77, 158	Kröber	1924a
Matsumura			
<i>ditaeniatus</i>	---; ---; 25, 28, 31, 76, 77, 150, 158, 345	Kröber	1924a
Macquart			
<i>farinosus</i>	---; ---; 25, 302, 342	Kröber	1924a
Szilády			
<i>flavoguttatus</i>	---; ---; 28, 150, 345	Kröber	1924a
Szilády			
<i>flavoguttatus</i>	var. <i>quadripunctatus</i> ---; ---; 28, 150, 345	Kröber	1924a
Szilády			
<i>fulvus</i>	---; ---; 76, 77, 158, 256, 350	Kröber	1924a
Meigen			
<i>fulvus</i>	var. <i>loewianus</i>	Kröber	1924a
Villaenauve	---; ---; 256		
<i>griseocens</i>	---; ---; 25	Kröber	1924a
Szilády			
<i>horvathi</i>	---; ---; 158	Shiraki	1932
Szilády			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OCHROPUS</i>			
<i>karyberthinus</i> Szilády	---; ---; 162, 318, 326, 353	Kröber	1924a
<i>keresszi</i> Szilády	---; ---; 162, 256	Kröber	1924a
	---; ---; 342	Kröber	1925
<i>lacteipennis</i> Becker	---; ---; 28, 150, 345	Kröber	1924a
<i>latestriatus</i> Brauer	---; ---; 162, 256, 318, 353	Kröber	1924a
<i>miser</i> Szilády	---, ---; 162, 194, 256, 318, 353	Kröber	1924a
<i>nigrifacies</i> Gobert	---; ---; 256	Kröber	1924a
<i>niveipalpus</i> Bigot	---; ---; 28, 150, 345	Kröber	1924a
<i>petiolatus</i> Szilády	---; ---; 76	Kröber	1939
<i>pulchellus</i> Loew	---; ---; 25, 28, 150, 345, 350	Kröber	1924a
	---; ---; 151, 354	Kröber	1925
<i>quadrifarius</i> Loew	---; ---; 151, 162, 256, 318, 353	Kröber	1924a
<i>rusticus</i> Linnaeus	---; ---; 28, 77, 101, 150, 158, 256, 345	Kröber	1924a
	---; ---; 180	Bouvier	1945
<i>rusticus</i> <i>parallelifrons</i> Szilády	---; ---; 256	Kröber	1925
<i>PANGONIA</i>			
<i>amboinensis</i> Fabricius	---; ---; 146, 147	Schuurmans Stekhoven	1926
<i>argentata</i> Szilády	---; ---; 302, 317, 350	Szilády	1923
<i>caffra</i> Macquart	---; ---; 25	Kröber	1925
<i>caucasica</i> Kröber	---; ---; 162	Kröber	1939
	---; ---; 256	Szilády	1923
<i>flavocinota</i> Szilády	---; ---; 317	Szilády	1923
	---; ---; 350	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PANGONIA</i> <i>fulvipes</i> Loew	---; ---; 302, 350	Szilády	1923
	---; ---; 317	Kröber	1933
<i>fulvipes</i> <i>palpalis</i> Kröber	---; ---; 350	Kröber	1925
<i>haustellata</i> Fabricius	---; ---; 317, 350	Kröber	1939
<i>lucida</i> Szilády	---; ---; 317	Szilády	1923
	---; ---; 350	Kröber	1925
<i>marginata</i> Fabricius	---; ---; 317, 350	Szilády	1923
<i>obscurata</i> Loew	---; ---; 350	Kröber	1925
<i>oritensis</i> Bigot	---; ---; 345	Kröber	1939
<i>pyritosa</i> Loew	---; ---; 321, 345. ---; ---; 256 (May bite man)	Olsuf'ev	1937
	---; ---; 350	Kröber	1925
<i>pyritosa</i> <i>decipiens</i> Kröber	---; ---; 350	Kröber	1925
<i>rhynchocephala</i> Kröber	---; ---; 317	Szilády	1923
<i>sinensis</i> Enderlein	---; ---; 76	Kröber	1939
<i>subfasciata</i> Walker	---; ---; 25	Szilády	1923
<i>tigris</i> Bigot	---; ---; 150, 345	Kröber	1925
<i>variegata</i> Fabricius	---; ---; 350	Szilády	1923
<i>yesoensis</i> Shiraki	---; ---, 158	Kono & Takahasi	1939
<i>zonata</i> Walker	---; ---; 25	Szilády	1923

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PANGONIUS</i>			
<i>haustellatus</i> Fabricius	---; ---; 317	Austen	1925
<i>pyritosus</i> Loew	---; ---; 317	Austen	1925
<i>sinensis</i> Enderlein	---; ---; 76	Hwang	1936
<i>tigris</i> Bigot	---; ---; 151, 345	Kröber	1939
<i>PARACANTHOCERA</i>			
<i>parallelus</i> Walker	---; ---; 147	Oldroyd	1948
<i>PHYRTA</i>			
<i>administrans</i> Schiner	---; ---; 77, 158	Kröber	1939
<i>amaena</i> Walker	---; ---; 76, 77, 158, 353	Kröber	1939
<i>amaena</i> var. <i>adumbrata</i> Szilády	---; ---; 76	Kröber	1939
<i>amaena</i> var. <i>lateralis</i> Shiraki	---; ---; 77	Kröber	1939
<i>grisea</i> Kröber	---; ---; 256	Kröber	1939
<i>grisea</i> var. <i>pallidiventris</i> Olsuf'ev	---; ---; 76, 168	Kröber	1939
<i>mandarina</i> Schiner	---; ---; 76, 77, 158	Kröber	1939
<i>takasagoensis</i> Shiraki	---; ---; 76, 77, 158	Kröber	1939
<i>PITYOCERA</i>			
<i>festae</i> Giglio-Tos	---; ---; 194	Wu	1940
<i>PSYLOCHRYSCOPS</i>			
<i>claviger</i> Thomson	---; ---; 190, 242	Szilády	1926
<i>flaviventris</i> Macquart	---; ---; 146	Schuurmans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY (GENERAL STATEMENTS)	DISTRIBUTION	AUTHOR	DATE
<i>PSYLOCHRYSOPS</i>				
<i>grandis</i> Szilády	---; ---; 77		Szilády	1932
<i>unisoma</i> Szilády	---; ---; 145		Szilády	1926
<i>SILVIOCHRYSOPS</i>				
<i>fasciatipennis</i> Kröber	---; c. mon; 77		Szilády	1932
<i>flavescens</i> Szilády	---; ---; 77		Szilády	1922
<i>SILVIUS</i>				
<i>caucasicus</i> Olsuf'ev	---; ---; 345		Szilády	1939
<i>celebensis</i> Schuurmans Stekhoven	---; in forest; 145		Schuurmans Stekhoven	1932a
<i>ceylonicus</i> Szilády	---; ---; 70		Szilády	1926
<i>coquilletti</i> Kröber	---; ---; 158		Kröber	1925
<i>dimidiatus</i> van der Wulp	---; ---; 147		Schuurmans Stekhoven	1926
<i>dorsalis</i> Coquillet	---; ---; 158, 257		Szilády	1918
<i>fasciatus</i> Kröber	---; ---; 77		Kröber	1922
<i>fascipennis</i> Kröber	---; ---; 77		Kröber	1922
<i>formosensis</i> Ricardo	---; ---; 76		Szilády	1918
	---; ---; 77		Kröber	1922
<i>indicus</i> Ricardo	---; ---; 143		Szilády	1927
<i>inflatioornis</i> Austen	---; ---; 317		Austen	1925
<i>irritans</i> Ricardo	---; ---; 3, 150, 151		Austen	1923
<i>latifrons</i> Olsuf'ev	---; ---; 345		Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SILVIUS</i>			
<i>matsumurai</i> Kono & Takahasi	---; ---; 158	Kono & Takahasi	1939
<i>nigripennis</i> Shiraki	---; ---; 77	Shiraki	1932
<i>ochraceus</i> Loew	---; ---; 350	Kröber	1925
<i>picea</i> Szilády	---; ---; 70	Szilády	1926
<i>tecticallosa</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>unicolor</i> Becker	---; ---; 150	Kröber	1922
<i>vitripennis</i> Meigen	---; ---; 318, 326, 345	Olsuf'ev	1937
<i>vituli</i> Fabricius	---; ---; 256	Kröber	1939
	---; ---; 321	Kröber	1922
	---; ---; 345	Olsuf'ev	1937
<i>SIRIDORHINA</i>			
<i>korosiceomana</i> Szilády	---; ---; 143	Szilády	1926
<i>zermyi</i> Szilády	---; ---; 70	Szilády	1926
<i>STIGMATOPHATHALMUS</i>			
<i>chrysourinus</i> Enderlein	---; ---; 158	Kröber	1925
<i>STYPORRHAMPHIS</i>			
<i>bucolicus</i> Schiner	---; ---; 139	Kröber	1939
<i>buddah</i> Portschinskij	---; ---; 353	Kröber	1939
<i>chrysourinus</i> Enderlein	---; ---; 158	Kröber	1939
<i>chrysourus</i> Loew	---; ---; 158	Kröber	1939
<i>coquilletti</i> Shiraki	---; ---; 158	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STYPORHAMPIS</i>			
<i>coreanus</i> Shiraki	---; ---; 168	Kröber	1939
<i>yao</i> Macquart	---; ---; 76	Kröber	1939
<i>SZILADYNUS</i>			
<i>acuminatus</i> Loew	---; ---; 150, 256, 353	Kröber	1939
<i>agnitionalis</i> Austen	---; ---; 342	Kröber	1939
<i>altaianus</i> Szilády	---; ---; 256	Kröber	1939
<i>altaicus</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>angustipalpis</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939
<i>arpadi</i> Szilády	---; ---; 256	Kröber	1939
<i>astur</i> Erichson	---; ---; 168, 256, 345, 353	Kröber	1939
<i>aterrimus</i> Meigen	---; ---; 345	Kröber	1939
<i>atripes</i> Kröber	---; ---; 76	Kröber	1939
<i>bimaculatus</i> Enderlein	---; ---; 256	Kröber	1925
<i>borealis</i> Loew	---; ---; 256	Kröber	1939
<i>borealis</i> <i>bimaculatus</i> Enderlein	---; ---; 256	Kröber	1925
<i>brevifrons</i> Kröber	---; ---; 76	Kröber	1939
<i>brevis</i> Loew	---; ---; 76, 158, 256	Kröber	1939
<i>caucasi</i> Szilády	---; ---; 28, 345	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i>			
<i>caucasicus</i> Enderlein	---; ---; 345	Kröber	1925
<i>confinis</i> Zetterstedt	---; ---; 256	Kröber	1939
<i>confinis</i> var. <i>nitidifrons</i> Szilády	---; ---; 256	Kröber	1939
<i>cuspidatus</i> Austen	---; ---; 342	Kröber	1939
<i>cyanops</i> Brauer	---; ---; 302	Kröber	1939
<i>decorus</i> Loew	---; ---; 302, 342	Kröber	1939
<i>decorus</i> var. <i>amani</i> Szilády	---; ---; 350	Kröber	1939
<i>decorus</i> var. <i>defaciatus</i> Szilády	---; ---; 302	Kröber	1939
<i>distinguendus</i> Verrall	---; ---; 158, 256	Kröber	1939
<i>flavipes</i> Wiedemann	---; ---; 256	Kröber	1939
<i>guttipennis</i> Enderlein	---; ---; 256	Kröber	1925
<i>hirticeps</i> Loew	---; ---; 158, 256	Kröber	1939
<i>hunnorum</i> Szilády	---; ---; 162	Kröber	1939
<i>komurae</i> Matsumura	---; ---; 256	Kröber	1939
<i>lapponicus</i> Wahlberg	---; ---; 158, 180, 256	Kröber	1939
<i>lapponicus</i> var. <i>albomaculatus</i> Zetterstedt	---; ---; 256	Kröber	1939
<i>lateralis</i> Meigen	---; ---; 256	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i> <i>luridus</i> Fallen	---; ---; 256	Kröber	1939
<i>mendicus</i> Billen	---; ---; 342	Kröber	1939
<i>montanus</i> Meigen	---; ---; 158, 256	Kröber	1939
<i>montanus</i> var. <i>flavicornis</i> Meigen	---; ---; 256	Kröber	1939
<i>muhlfeldi</i> Brauer	---; ---; 162, 256, 350	Kröber	1939
<i>nigellus</i> Szilády	---; ---; 256	Kröber	1939
<i>nigricauda</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>nigricornis</i> Zetterstedt	---; ---; 162, 256	Kröber	1939
<i>nigrivitta</i> Olsuf'ev	---; ---; 256, 321, 353	Kröber	1939
<i>pavlovskii</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939
<i>polaris</i> Frey	---; ---; 256	Kröber	1939
<i>popovi</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>pulchriventris</i> Portschinsky	---; ---; 353	Kröber	1939
<i>reinigianus</i> Enderlein	---; ---; 256, 353	Kröber	1939
<i>sachalinensis</i> Enderlein	---; ---; 256	Kröber	1925
<i>sareptanus</i> Szilády	---; ---; 256	Kröber	1939
<i>sareptanus</i> var. <i>melas</i> Szilády	---; ---; 256	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i>			
<i>semipollinosus</i> Olsuf'ev	---; ---; 166	Kröber	1939
<i>shiraki</i> Enderlein	---; ---; 76	Kröber	1925
<i>shritnikovi</i> Olsuf'ev	---; ---; 166	Kröber	1939
<i>sibiricus</i> Enderlein	---; ---; 256	Kröber	1925
<i>silicicus</i> Enderlein	---; ---; 350	Kröber	1925
<i>solstitialis</i> Schiner	---; ---; 256, 350	Kröber	1939
<i>stenopselaphus</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>stigmopterus</i> Olsuf'ev	---; ---; 168, 256	Kröber	1939
<i>svan-hedini</i> Kröber	---; ---; 76	Kröber	1939
<i>tarandinoides</i> Olsuf'ev	---; ---; 194, 256, 353	Kröber	1939
<i>tarandinus</i> Linnaeus	---; ---; 77, 158, 256	Kröber	1939
<i>tataricus</i> Pärtschinsky	---; ---; 76, 162, 256	Kröber	1939
<i>tataricus</i> var. <i>aurantiacus</i> Szilády	---; ---; 326	Kröber	1939
<i>tataricus</i> var. <i>bicolor</i> Szilády	---; ---; 76	Kröber	1939
<i>tetricus</i> Szilády	---; ---; 56, 345	Kröber	1939
<i>tibetanus</i> Szilády	---; ---; 76	Kröber	1939
<i>tropicus</i> Panzer	---; ---; 77, 158, 256	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i>			
<i>tropicus</i>			
var. <i>bisignatus</i> Jaennicke	---; ---; 256	Kröber	1939
<i>tsing-vang</i> Szilády	---; ---; 76	Kröber	1939
<i>turanicus</i> Olsuf'ev	---; ---; 318	Kröber	1939
<i>turkestanus</i> Szilády	---; ---; 162	Kröber	1939
<i>turkestanus</i> var. <i>ater</i> Szilády	---; ---; 162	Kröber	1939
<i>turkestanus</i> var. <i>minor</i> Szilády	---; ---; 162	Kröber	1939
<i>ussuriensis</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>vulpes</i> Szilády	---; ---; 342	Kröber	1939
<i>vuvang</i> Szilády	---; ---; 76	Kröber	1939
<i>zonatus</i> Szilády	---; ---; 326	Kröber	1939
<i>TABANUS</i>			
<i>abasus</i> Bigot	---; ---; 150, 345	Kröber	1925
<i>abbreviatus</i> Bigot	---; ---; 59, 77, 144, 146, 277 ---; ---; 76 ---; ---; 77°. ---; ---; 143, 190	Schuurmans Stekhoven Hwang Shiraki	1926 1936 1918
<i>abscondens</i> Walker	---; ---; 59, 76, 144, 277	Schuurmans Stekhoven	1926
<i>aoallus</i> Szilády	---; ---; 143	Szilády	1926
<i>accensus</i> Austen	---; ---; 159° ---; ---; 302, 342, 350	Austen Klöber	1920 1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>accipiter</i>	---; ---; 162	Szilády	1923
Szilády	---; ---; 318	Kröber	1925
	---; ---; 326	Olsuf'ev	1937
<i>acuminatus</i>	---; ---; 256	Kröber	1925
Loew			
<i>adjacens</i>	---; ---; 150	Kröber	1925
Ricardo	---; ---; 235	Senior-White	1927
<i>administrans</i>	---; ---; 77, 158	Shiraki	1932
Schiner			
<i>aetherus</i>	---; ---; 294 (May bite man)	Olsuf'ev	1937
Bigot			
<i>aetherus</i>			
<i>sibiricus</i>	---; ---; 256	Anonymous	1945a
Olsuf'ev			
<i>agnitionalis</i>	---; ---; 154	Austen	1924
Austen	---; ---; 342	Kröber	1925
<i>agnoscibilis</i>	---; ---; 277	Austen	1922
Austen			
<i>agrestis</i>	---; ---; 76, 158, 350, 353	Kröber	1934
Wiedemann	---; ---; 256, 321	Olsuf'ev	1937
<i>agricola</i>	---; ---; 76	Anonymous	1945
Wiedemann	---; ---; 139, 159	Schuurmans Stekhoven	1931
<i>aino</i>	---; ---; 256	Kono & Takahasi	1939b
Kono & Takahasi			
<i>albicans</i>	---; ---; 25	Kröber	1925
Macquart			
<i>albicaudus</i>	---; ---; 35, 345	Kröber	1939
Olsuf'ev			
<i>albiinctus</i>	---; ---; 146, 149	Schuurmans Stekhoven	1926
Schuurmans Stekhoven			
<i>albifasciis</i>	---; ---; 150, 342	Kröber	1925
Loew	---; ---; 159	Austen	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS albimedius</i> Walker	---; ---; 122 ---; ---; 139 River bank; Feb.-June, Oct.; 143 ---; Nov.-Jan.; 143 ---; ---; 146 ---; ---; 235	de Mello & Afonso Ricardo Fletcher Fletcher Szilády Senior-White	1921 1916 1916 1920 1926 1922
<i>albipes</i> Fabricius	---; ---; 350	Kröber	1939
<i>albitriangularis</i> Schuurmans Stekhoven	---; ---; 149, 190	Schuurmans Stekhoven	1926
<i>albivittatus</i> Schuurmans Stekhoven	---; ---; 146 ---; ---; 190	Schuurmans Stekhoven Schuurmans Stekhoven	1926 1928
<i>albocostatus</i> Bigot	---; ---; 143	Senior-White	1927
<i>albofasciatus</i> Ricardo	---; ---; 143	Senior-White	1927
<i>albopruinosus</i> Szilády	---; ---; 151	Szilády	1923
<i>albopunctatus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>alexandrinus</i> Wiedemann	---; May; 154. ---; June; 174. ---; ---; 302 ---; ---; 342	Austen Szilády	1920 1923
<i>altianus</i> Szilády	---; ---; 256	Szilády	1926
<i>amaenus</i> Walker	---; ---; 76, 139, 353. ---; in uncultivated fields, in pastures near villages or town in daytime, Apr.-Sept.; 77. ---; Jul.-Sept.; 158 ---; ---; 168	Shiraki Barnett & Toshioka	1918 1951
	---; ---; 209	Schuurmans Stekhoven	1931
	---; ---; 256	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>amaenus</i>			
<i>lateralis</i> Shiraki	---; ---; 158	Kröber	1925
<i>amoenatus</i> Séguy	---; ---; 76 ---; ---; 144	Séguy Hwang	1934 1936
<i>amoenus</i> Walker	---; ---; 76, 77 ---; ---; 168	Schuurmans Stekhoven Hsiao	1932b 1946
<i>andamanicus</i> Bigot	---; ---; 11, 143, 218, 366, 367	Schuurmans Stekhoven	1926
<i>angusticornis</i> Loew	---; ---; 158	Kröber	1925
<i>angustilimbatus</i> Senior-White	---; ---; 70	Senior-White	1927
<i>angustilimbatus</i> var. <i>particolor</i> Szilády	---; ---; 70	Szilády	1926
<i>angustipalpis</i> Olsuf'ev	---; ---; 256, 353	Kono & Takahasi	1939
<i>angustistriatus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>angustitriangularis</i> Schuurmans Stekhoven	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>angustiventer</i> Schuurmans Stekhoven	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>annomitus</i> Bigot	---; ---; 144	Schuurmans Stekhoven	1926
<i>anthrax</i> Olsuf'ev	---; ---; 150	Kröber	1939
<i>appendicifer</i> Szilády	---; ---; 318	Kröber	1939
<i>appendiculatus</i> Szilády	---; ---; 318	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>apricus</i> Meigen	---; ---; 28, 256, 345	Kröber	1924a
<i>arabicus</i> Macquart	---; ---; 25, 151	Kröber	1925
<i>arenivagus</i> Austen	---; September-November; 154	Buxton	1924
	---; in train; 154	Austen	1924
	---; ---; 302, 350	Kröber	1924a
	---; Sept.-Oct., in tent, attracted by artificial light; 342 ^a	Austen	1920
	Coast dunes; ---; 342	Anonymous	1944b
<i>argenteomaculatus</i> Kröber	---; ---; 256	Olsuf'ev	1937
	---; ---; 326	Kröber	1939
<i>argentisignatus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>ariecanus</i> Shiraki	---; ---; 77 ^b	Shiraki	1918
<i>armeniacaus</i> Kröber	---; ---; 28	Kröber	1939
<i>arpadi</i> Szilády	---; ---; 158	Kono & Takahasi	1939b
	---; ---; 180	Szilády	1923
	---; June; 256	Olsuf'ev	1937
<i>astur</i> Erichson	---; ---; 168, 256, 353	Kono & Takahasi	1939a
<i>ater</i> Rossi	---; ---; 317	Austen	1925
	---; ---; 350	Kröber	1925
<i>aterrimus</i> Meigen	---; ---; 345	Kröber	1925
<i>atrimaculatus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>atripes</i> Kröber	---; ---; 76	Hwang	1936
<i>atripilosus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>atripunctatus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>atrisignatus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>atriventer</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>atrophirtus</i> Ricardo	---; ---; 70, 149	Schuurmans Stekhoven	1926
	---; ---; 190	Senior-White	1927
<i>atropathenicus</i> Olauf'ev	---; ---; 345	Kröber	1939
<i>aurantiacus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1930
<i>auribundus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>auricingulatus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1932b
<i>aurifer</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>auriflamma</i> (Walker)	---; ---; 143	Senior-White	1922
<i>aurilincatus</i> Schuurmans Stekhoven	---; ---; 149, 190, 277	Schuurmans Stekhoven	1926
<i>aurisegmentatus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1932b
<i>aurisparsus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>auristriatus</i> (Ricardo)	---; ---; 59 ---; ---; 143, 218, 366, 367	Senior-White Schuurmans Stekhoven	1922 1926
<i>auriventer</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>aurotestaceus</i> Walker	---; ---; 76, 77, 144	Wu	1940
<i>autumnalis</i> Linnaeus	---; ---; 28, 317, 342, 345 ---; ---; 76 ---; ---; 150 ---; ---; 154, 302, 350 ---; rests on shady side of tree trunks at midday; 159	Kröber Hwang Leclercq Austen Buxton	1924a 1936 1961 1920 1924
	---; ---; 162. ---; experimental transmission of tularemia; 256	Olsuf'ev	1937
	---; June-July; 256°	Skufin	1949
<i>autumnalis</i> <i>brunnescens</i> Szilády	---; ---; 150, 162 ---; ---; 302, 350 ---; ---; 318, 326, 345	Leclercq Kröber Olsuf'ev	1961 1925 1937
<i>avittatus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>badiocallosus</i> Kröber	---; ---; 158	Kröber	1928
<i>barnesi</i> Austen	---; ---; 143, 277°	Austen	1922
<i>basalis</i> Macquart	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>basicallus</i> Szilády	---; ---; 150	Szilády	1926
<i>bicallosus</i> Ricardo	Along the banks of the river; March; 143 ---; Nov.-Dec.; 143	Fletcher	1921 1920
<i>bicinotus</i> Ricardo	---; March, July; 77° ---; ---; 143, 190, 218, 366, 367	Shiraki Schuurmans Stekhoven	1918 1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>bifarius</i> Loew	---; ---; 256, 321 ---; ---; 350	Olsuf'ev Kröber	1937 1925
<i>bifarius</i> var. <i>tauricus</i> Enderlein	---; ---; 350	Kröber	1939
<i>biguttatus</i> Wiedemann	---; ---; 25	Kröber	1925
<i>bilateralis</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>birmanicus</i> Bigot	---; ---; 59, 77, 143, 144, 190, 277	Schuurmans Stekhoven	1926
<i>bivittatus</i> Matsumura	---; ---; 76 ---; ---; 77 ---; ---; 158	Kröber Szilády Kono & Takahasi	1939 1922 1939
	---; ---; 256	Olsuf'ev	1937
<i>bombayensis</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>borealis</i> Loew	---; ---; 256	Kröber	1925
<i>bovinus</i> Loew	---; ---; 28, 345 ---; ---; 143 ---; ---; 150, 342 ---; ---; 162, 256 ---; June-July; 256*	Kröber Isaac Kröber Sassachin et al. Skufin	1924a 1925a 1939 1930 1949
<i>brevifrons</i> Kröber	---; ---; 76	Kröber	1934
<i>brevis</i> Loew	---; ---; 76, 158, 168, 194, 256	Kono & Takahasi	1939a
<i>bromiolus</i> Szilády	---; ---; 302, 317, 318	Szilády	1923

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>bromius</i> Linnaeus	---; ---; 3 ---; ---; 28, 150, 151, 345, 354 ---; ---; 154° ---; experimental transmission of tularemia; 162 ---; experimental transmission of tularemia; 256 (Attack man) ---; ---; 342	Leclercq Kröber Austen Olsuf'ev & Golov Olsuf'ev	1961 1924a 1924 1936 1937 1925
<i>bromius</i> <i>flavofemoratus</i> Strobl	---; ---; 150, 303, 326 ---; ---; 345	Leclercq Olsuf'ev	1961 1937
<i>bromius</i> var. <i>nigricans</i> Szilády	---; ---; 342 ---; ---; 354	Kröber Kröber	1939 1924a
<i>brunneocallosus</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>brunneothorax</i> Schuurmans Stekhoven	---; hills and mountainous region; 147	Schuurmans Stekhoven	1924
<i>brunneoscens</i> Szilády	---; ---; 28, 256, 302, 317, 342, 350	Kröber	1924a
<i>brunnipes</i> Macquart	---; ---; 145, 146, 190, 277 ---; ---; 149	Schuurmans Stekhoven Schuurmans Stekhoven	1928 1926
<i>brunnipennis</i> (Ricardo)	---; ---; 59, 143, 146, 277	Schuurmans Stekhoven	1926
<i>brunnipes</i> Schuurmans Stekhoven	---; ---; 143 ---; forests; 149	Roy & Brown Nieschulz	1954 1935
<i>brunnitibialis</i> Schuurmans Stekhoven	---; ---; 76, 139	Schuurmans Stekhoven	1931
<i>brunniventer</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>bubalophilus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>bubbermani</i> Nieschulz	Small muddy pond; ---; 149	Nieschulz	1927
<i>bucolicus</i> Schiner	---; ---; 76 ---; ---; 139	Anonymous	1945
<i>budda</i> Portschinsky	---; ---; 76, 168, 256, 353	Kono & Takahasi.	1939a
<i>burmanense</i> Schuurmans Stekhoven	---; ---; 59, 144, 277	Schuurmans Stekhoven	1926
<i>caeruleascens</i> Macquart	---; ---; 146	Schuurmans Stekhoven	1926
<i>calidus</i> Walker	---; ---; 31	Schuurmans Stekhoven	1926
<i>camelarius</i> Austen	---; ---; 302, 342, 350	Kröber	1924a
<i>candidus</i> Ricardo	---; ---; 77	Shiraki	1918
<i>canipalpis</i> Bigot	---; ---; 150, 151	Kröber	1924a
<i>canipus</i> Schuurmans Stekhoven	---; ---; 145, 149	Schuurmans Stekhoven	1926
<i>capito</i> Olsuf'ev	---; ---; 28, 345	Kröber	1939
<i>carabaghensis</i> Portschinsky	---; ---; 31 ---; ---; 318, 345	Kröber	1925
<i>caucasi</i> Szilády	---; ---; 35 ---; ---; 345	Olsuf'ev	1937
<i>caucasius</i> Kröber	---; ---; 28, 256, 345	Szilády	1923
<i>cepuricus</i> Surcouf	---; ---; 144	Kröber	1925
		Surcouf	1922

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>ceramensis</i> Schuurmans Stekhoven	---; ---; 147	Schuurmans Stekhoven	1926
<i>ceylonicus</i> Schiner	---; ---; 70, 145, 146, 147, 149, 190, 277. ---; in town and jungle, rare; 280	Schuurmans Stekhoven	1926
<i>ceylonicus</i> var. <i>ceylonicus</i> Schiner	---; ---; 145, 149	Schuurmans Stekhoven	1932b
<i>ceylonicus</i> var. <i>nitidulus</i> Bigot	---; ---; 145, 149	Schuurmans Stekhoven	1932b
<i>chloropis</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>christophi</i> Kröber	---; ---; 150	Kröber	1928
<i>chrysater</i> Schuurmans Stekhoven	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>chrysurus</i> Loew	---; ---; 76, 353 ---; ---; 77, 158, 210 ---; July-Sept.; 158* ---; ---; 168, 256	Kröber Schuurmans Stekhoven Shiraki Kono & Takahasi	1924a 1931 1918 1939
<i>cinerescens</i> MacLeay	---; ---; 145	Ricardo	1914
<i>cinnamoneus</i> Doleschall	---; ---; 147	Szilády	1926
<i>circumulatus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>citripilosus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>cohaerens</i> Walker	---; ---; 147	Oldroyd	1948

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS confinis</i> Zetterstedt	---; ---; 168 ---; May-June; 256° ---; ---; 256 ---; ---; 353	Barnett & Toshioka Skufin Olsuf'ev Kono & Takahasi	1951 1949 1937 1939a
<i>confinus</i> <i>nitidifrons</i> Szilády	---; ---; 256	Anonymous	1945a
<i>conformis</i> Frey	---; ---; 256	Blagoveshchenskii	1930
<i>confucius</i> Macquart	---; ---; 76	Hsiao	1945
<i>conicus</i> Bigot	---; ---; 76, 143, 190	Senior-White	1927
<i>consanguineus</i> Macquart	---; ---; 143	Senior-White	1927
<i>consocius</i> Walker	---; ---; 143	Austen	1922a
<i>coquilletti</i> Shiraki	---; Aug. and Sept.; 158 ---; ---; 256	Shiraki Kröber	1918 1924a
<i>cordiger</i> Meigen	---; ---; 76, 158, 302, 350 ---; ---; 150, 168 ---; ---; 256, 317, 342 ---; ---; 345	Kröber Leclercq Kröber Olsuf'ev	1934 1961 1924a 1937
<i>coreanus</i> Shiraki	---; ---; 158, 168	Kono & Takahasi	1939a
<i>crassinervis</i> Villen	---; ---; 318, 354	Kröber	1925
<i>crassus</i> Walker	---; ---; 59, 77, 139, 146, 190. Leaves of plants overhanging on water along river bank; all year; 143	Isaac	1924
<i>crocoitinotipennis</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>couulus</i> Szilády	---; ---; 318	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>cuspidatus</i>	---; ---; 154, 159	Austen	1924
Austen	---; ---; 342	Kröber	1925
<i>cylindricallosus</i>	---; ---; 145	Schuurmans Stekhoven	1926
Schuurmans Stekhoven			
<i>dalei</i>	---; ---; 302, 342, 350	Kröber	1924a
Austen	---; May; 342	Austen	1920
<i>decoratus</i>	---; ---; 143	Szilády	1926
Szilády			
<i>decorus</i>	---; ---; 154, 174, 302, 342	Austen	1920
Loew			
<i>decorus</i>			
<i>cyanops</i>	---; ---; 302	Kröber	1925
Brauer			
<i>decorus</i>			
<i>defasciatus</i>	---; ---; 302	Kröber	1925
Szilády	---; ---; 317	Szilády	1923
<i>demellonis</i>	---; ---; 143	Senior-White	1927
Senior-White			
<i>discrepans</i>	---; ---; 70	Schuurmans Stekhoven	1926
Ricardo			
<i>dissimilis</i>	---; ---; 145, 149, 190, 280	Schuurmans Stekhoven	1926
Ricardo			
	---; ---; 277	Schuurmans Stekhoven	1928
<i>distinguendus</i>	---; ---; 158, 256	Kono & Takahasi	1939
(Verrall)			
	---; ---; 162	Sassachin et al.	1930
	---; June-July; 256*	Skufin	1949
<i>ditaeniatus</i>	---; ---; 31, 76, 139, 143, 150, 158	Wu	1940
Macquart			
	---; ---; 151	Patton	1919
	---; ---; 235, 349	Senior-White	1927
<i>diversifrons</i>	---; ---; 143	Senior-White	1927
Ricardo			
	---; ---; 144	Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>dorsomaculatus</i> Macquart	---; ---; 302, 342, 350	Kröber	1924a
<i>effilatus</i> Schuurmans Stekhoven	---; ---; 146, 149, 190, 280	Schuurmans Stekhoven	1926
	---; ---; 149, 242	Schuurmans Stekhoven	1932b
	---; ---; 277	Schuurmans Stekhoven	1928
<i>eggeri</i> Schiner	---; ---; 150, 342	Senior-White	1927
	---; in tent; 154	Austen	1920
<i>eggeri</i> <i>prometheus</i> Szilády	---; ---; 345	Szilády	1923
<i>elegans</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>equicinctus</i> Schuurmans Stekhoven	---; ---; 277	Schuurmans Stekhoven	1926
<i>erteri</i> Brauer	---; ---; 76	Hsiao	1945
	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
	---; ---; 256, 326	Olsuf'ev	1937
<i>erberi</i> var. <i>fuscipennis</i> Szilády	---; ---; 76	Hwang	1936
<i>erythrocephalus</i> van der Wulp	---; ---; 147	Oldroyd	1948
<i>eskakil</i> Szilády	---; ---; 158	Shiraki	1932
<i>euphanes</i> Surcouf	---; ---; 144	Surcouf	1921
<i>excoeleus</i> Ricardo	---; ---; 143, 235	Senior-White	1922
<i>exclusus</i> Pandelle	---; ---; 302, 342, 350	Kröber	1924a
<i>exoticus</i> Ricardo	---; 76, 77, 138, 256, 353	Kröber	1924a
	---; in pastures, woods and bushes, near streams, May-Aug.; 77°	Shiraki	1918

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>exoticus</i>			
<i>fulvipes</i>	---; ---; 70	Szilády	1926
<i>Szilády</i>			
<i>explicatus</i>	---; ---; 143	Senior-White	1927
<i>Walker</i>			
<i>extricans</i>	---; ---; 147	Schuurmans Stekhoven	1926
<i>Walker</i>			
<i>factiosus</i>	---; ---; 145, 242	Schuurmans Stekhoven	1926
<i>Walker</i>			
<i>farinosus</i>	---; ---; 25, 302	Kröber	1939
<i>Szilády</i>			
<i>felderi</i>	---; ---; 76, 139	Hwang	1936
<i>van der Wulp</i>			
<i>fenestratus</i>	---; ---; 139	Schuurmans Stekhoven	1926
<i>Schuurmans</i>			
<i>Stekhoven</i>			
<i>filipjevi</i>	---; ---; 162	Kröber	1939
<i>Olsuf'ev</i>			
<i>finalis</i>	---; ---; 277	Austen	1922
<i>Walker</i>			
<i>flavianulatus</i>	---; ---; 145, 149	Schuurmans Stekhoven	1932
<i>Schuurmans</i>			
<i>Stekhoven</i>			
<i>flavioinotus</i>	---; ---; 143	Schuurmans Stekhoven	1926
<i>Ricardo</i>			
<i>flavioornis</i>	---; ---; 149	Schuurmans Stekhoven	1926
<i>Schuurmans</i>			
<i>Stekhoven</i>			
<i>flavimarginatus</i>	---; ---; 76, 139	Schuurmans Stekhoven	1931
<i>Schuurmans</i>			
<i>Stekhoven</i>			
<i>flavimediatus</i>	---; ---; 143, 218, 366, 367	Schuurmans Stekhoven	1926
<i>Schuurmans</i>			
<i>Stekhoven</i>			
<i>flavipennis</i>	---; hill and mountainous region, prefers moist places; 147	Schuurmans Stekhoven	1926
<i>Ricardo</i>			
<i>flavipes</i>	---; ---; 256	Olsuf'ev	1937
<i>Wiedemann</i>			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>flavipilosus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>flavipus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>flaviscutellatus</i> Schuurmans Stekhoven	---; forests; 149	Nieschulz	1935
<i>flaviseimus</i> Ricardo	---; ---; 70	Schuurmans Stekhoven	1926
<i>flavistriatus</i> Schuurmans Stekhoven	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>flavitibiatus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>flavitriangularis</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>flaviventris</i> Bigot	---; ---; 59, 70, 143, 242 ---; ---; 235	Arcouer Szilldy	1924 1926
<i>flavivittatus</i> Schuurmans Stekhoven	---; in mountainous regions; 146	Schuurmans Stekhoven	1926
<i>flavoguttatus</i> Szilldy	---; experimental transmission of tularemia; 162 ---; ---; 326	Olsuf'ev & Golov	1936 1937
<i>flavoguttatus</i> <i>quadripunctatus</i> Szilldy	---; ---; 345	Kröber	1925
<i>flavothorax</i> Ricardo	---; ---; 139 ---; ---; 149, 190, 280	Hwang Schuurmans Stekhoven	1936 1926
<i>flavilis</i> Walker	---; ---; 145, 242 ---; ---; 147	Schuurmans Stekhoven Szilldy	1926 1926
<i>fontinalis</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>formosensis</i> Ricardo	---; May-July; 77	Shiraki	1918
<i>frasseri</i> Austen	---; ---; 317	Austen	1925
<i>freyi</i> Szilády	---; ---; 354	Kröber	1930
<i>fulvicinctus</i> Ricardo	---; mountains; 77°. ---; ---; 158	Shiraki	1918
<i>fulvicornis</i> Meigen	---; May-June; 256	Olsuf'ev.	1937
	---; June-Aug.; 256°	Skufin	1949
<i>fulvimedoides</i> Shiraki	---; ---; 77	Kröber	1925
	---; Apr.-Aug.; 158. ---; ---; 256	Kröber	1924a
<i>fulvimedia</i> Walker	---; ---; 59, 76, 143, 218	Wu	1940
	---; mountains, Apr.-May; 77	Shiraki	1918
<i>fulvissimus</i> Rondani	---; ---; 145, 146, 149	Schuurmans Stekhoven	1926
<i>fulvus</i> Meigen	---; ---; 76	Wu	1940
	---; ---; 158. ---; ---; 256, 350	Edwards et al.	1939
	---; ---; 162	Olsuf'ev	1937
	---; July-August; 256°	Skufin	1949
<i>fumicinus</i> Austen	---; around lamp at night; 151	Austen	1923
<i>fumifer</i> Walker	---; ---, 144	Séguy	1934
	---; ---; 145	Schuurmans Stekhoven	1932b
	---; ---; 146, 280. ---; all year aboard steamer; 149. ---; aboard steamer; 190	Schuurmans Stekhoven	1926
	---; ---; 242, 337	Kröber	1934
<i>fumipennis</i> van der Wulp	---; ---; 149	Schuurmans Stekhoven	1926
<i>fumiguligerus</i> Doluschall	---; ---; 147	Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>fuscibarbus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>fuscicauda</i> (Bigot)	---; ---; 11, 59, 70, 149	Senior-White	1922
<i>fuscicornis</i> Ricardo	---; ---; 77	Shiraki	1918
<i>fuscocrura</i> Bigot	---; ---; 70	Senior-White	1927
<i>fuscifrons</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>fuscithorax</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>fusciventer</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>fuscocoeruleus</i> (Ricardo)	---; ---; 59, 143, 218 ---; ---; 145	Senior-White Szilády	1922 1926
<i>galloisi</i> Kono & Takahasi	---; ---; 168	Heiso	1948
<i>geminus</i> Szilády	---; ---; 194 ---; ---; 256	Heiso Szilády	1946 1923
<i>geniculatus</i> van der Wulp	---; ---; 145 ---; ---; 149	Schuurmans Stekhoven	1926
<i>gerokai</i> Brauer	---; ---; 28, 256, 302, 342, 345, 350 ---; ---; 353	Kröber	1924a 1934
<i>gigas</i> Herbst	---; ---; 154, 256, 302, 350. ---; in March; 342 ---; April; 159	Austen Buxton	1920 1924
<i>gigas</i> var. <i>rufula</i> Szilády	---; ---; 350	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TARANUS</i>			
<i>gigas</i>			
var. <i>trigonellum</i> Szilády	---; ---; 342	Kröber	1939
<i>gilvus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>glaber</i> Bigot	---; ---; 3, 28, 143, 150, 162, 256, 345 Greek banks; common, July-Nov.; 151	Kröber	1924a
	---; ---; 235	Patton	1920
	---; ---; 256	Senior-White	1927
<i>glaucopis</i> Meigen	---; ---; 256*	Skufin	1949
	---; ---; 256	Kröber	1939
	---; ---; 294	Olsuf'ev	1937
<i>glaucopis</i> var. <i>cognatus</i> Loew	---; ---; 174, 302, 342, 350	Kröber	1924a
<i>glaucus</i> Meigen	---; ---; 256	Sassuchin et al.	1930
<i>golovi</i> Olsuf'ev	---; ---; 162	Olsuf'ev & Golov	1936
	---; ---; 166	Kröber	1939
<i>golovi</i> var. <i>pallidus</i> Olsuf'ev	---; ---; 162	Kröber	1939
<i>graeacus</i> Fabricius	---; ---; 28, 256, 302, 317, 342, 345, 350	Kröber	1924a
<i>grandis</i> Szilády	---; ---; 350	Kröber	1925
<i>gratus</i> Loew	---; ---; 342	Kröber	1939
<i>griseifacies</i> Schuurmans Stekhoven	---; ---; 70, 143	Schuurmans Stekhoven	1926
<i>griseipalpis</i> Schuurmans Stekhoven	---; ---; 59, 144, 146, 149, 277	Schuurmans Stekhoven	1926
	---; ---; 145	Schuurmans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>griseithorax</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>griseoscutellatus</i> Kröber	---; ---; 242	Kröber	1924
<i>griseus</i> Kröber	---; ---; 256	Kröber	1928
<i>griseus</i> <i>griseus</i> Kröber	---; ---; 158, 168, 256, 326	Kono & Takahasi	1939a
<i>griseus</i> <i>pallidiventris</i> Olsuf'ev	---; ---; 76, 168	Kono & Takahasi	1939a
<i>hilaris</i> Walker	---; ---; 139	Ricardo	1916
	---; May; 143	Fletcher	1916
<i>hirticeps</i> Loew	---; ---; 77	Shiraki	1932
	---; ---; 153	Kröber	1925
<i>hirtipalpis</i> Ricardo	---; ---; 218	Senior-White	1927
<i>hirtistriatus</i> Ricardo	---; ---; 59	Senior-White	1922
	---; ---; 145	Schuurmans Stekhoven	1932b
	---; ---; 149, 190	Schuurmans Stekhoven	1926
<i>hirtus</i> Walker	---; ---; 143	Senior-White	1927
<i>hoang</i> Macquart	---; ---; 76	Wu	1940
<i>hongkongensis</i> Ricardo	---; ---; 76, 139	Hwang	1936
<i>horvathi</i> Szilády	---; ---; 158	Kröber	1939
<i>humilis</i> Coquillett	---; in mountainous areas; 138°	Shiraki	1918
	---; ---; 158, 256	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>homolimius</i> Walker	---; ---; 145, 146	Schuurmans Stekhoven	1926
<i>hunniornis</i> Szilády	---; ---; 162, 256 ---; ---; 166	Olsuf'ev Kröber	1937 1925
<i>hybridus</i> Wiedemann	---; ---; 59, 76, 139, 235 ---; ---; 143, 145, 185, 190, 218, 366, 367. ---; in jungle; 149	Heiao Schuurmans Stekhoven	1945 1926
	Brackish, running, stagnant water in forests, marshes; ---; 149	Nieschulz	1926
<i>hypomacros</i> Surcouf	---; ---; 144	Surcouf	1921
<i>ictericus</i> Surcouf	---; ---; 144	Surcouf	1921
<i>ignobilis</i> Rondani	---; ---; 145 ---; ---; 149	Schuurmans Stekhoven Schuurmans Stekhoven	1926 1932b
<i>immanis</i> Wiedemann	---; ---; 59, 144, 145, 190, 277. ---; all year, 149 ---; rare; 146. ---; at edge of forest, and in forest; 149	Schuurmans Stekhoven Nieschulz	1926 1935
<i>immixtus</i> Walker	---; ---; 145	Schuurmans Stekhoven	1926
<i>imparicallosus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>inaequannulatus</i> Schuurmans Stekhoven	---; ---; 147	Schuurmans Stekhoven	1932b
<i>inaequatus</i> Austen	---; ---; 151	Kröber	1925
<i>incultus</i> van der Wulp	---; ---; 149	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>indianus</i> Ricardo	---; ---; 76, 77, 139, 143 ---; ---; 144, 145 ---; ---; 342	Wu Szilády de Mello & Afonso	1940 1926 1921
<i>indifferens</i> Szilády	---; ---; 143	Szilády	1926
<i>indiscriminatus</i> Ricardo	---; ---; 70	Senior-White	1927
<i>infanis</i> Szilády	---; ---; 145	Szilády	1926
<i>inflatipalpis</i> Schuurmans Stekhoven	---; ---; 70	Schuurmans Stekhoven	1926
<i>ingens</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>innequannaulatus</i> Schuurmans Stekhoven	---; ---; 147	Schuurmans Stekhoven	1932b
<i>inobservatus</i> Ricardo	---; ---; 149	Schuurmans Stekhoven	1926
<i>insecutor</i> Austen	---; grassy plain; 154 ---; ---; 159 ---; ---; 342	Austen Austen Kröber	1920 1924 1925
<i>insidiator</i> Austen	---; ---; 59, 144. ---; very common in the jungle; 277	Schuurmans Stekhoven	1926
<i>insurgens</i> Walker	---; ---; 147	Schuurmans Stekhoven	1926
<i>intermedius</i> Egger	---; ---; 150, 151, 302, 317, 342, 350. ---; July-Sept.; 154	Kröber	1924a
<i>intermedius</i> <i>prometheus</i> Szilády	---; ---; 345	Kröber	1925
<i>internus</i> Walker	---; ---; 143 ---; ---; 146	Schuurmans Stekhoven Senior-White	1926 1927

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>invalidus</i> Szilády	---; ---; 280	Szilády	1926
<i>ijoensis</i> Shiraki	---; July-Aug.; 158	Shiraki	1918
	---; ---; 256	Kröber	1924a
<i>ixion</i> Osten Sacken	---; ---; 149	Kröber	1924
	---; ---; 242	Bezzi	1913
<i>japonicus</i> Bigot	---; ---; 158	Séguy	1934
<i>ridus</i> Bigot	---; ---; 143	Senior-White	1927
<i>jucundus</i> Walker	---; ---; 70, 76, 139, 143, 235	Schuurmans Stekhoven	1931
<i>kakhvrensis</i> Senior-White	---; ---; 59	Senior-White	1922
<i>karenkoensis</i> Shiraki	---; ---; 77	Shiraki	1932
<i>karyenthinu-</i> Szilády	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
	---; ---; 256, 326	Olsuf'ev	1937
	---; ---; 317, 318, 353	Kröber	1939
<i>kerteszi</i> Szilády	---; ---; 154	Austen	1922
	---; ---; 256, 342	Kröber	1939
<i>kervillei</i> Surcouf	---; ---; 302, 342, 350	Kröber	1924a
<i>ketonensis</i> Kono & Takahasi	---; ---; 256	Kono & Takahasi	1939b
<i>khazienensis</i> Ricardo	---; ---; 143, 149, 190, 218, 366, 367	Schuurmans Stekhoven	1926
	---; ---; 277	Senior-White	1927
<i>kiangsuensis</i> Kröber	---; ---; 16	Hwang	1936
<i>kingi</i> Austen	---; ---; 304, 342, 350	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>kinoshitai</i> Kono & Takahasi	---; ---; 158	Kono & Takahasi	1939b
<i>kotoshoensis</i> Shiraki	---; ---; 77°	Shiraki	1918
<i>lacteipennis</i> Packer	---; ---; 150	Kröber	1925
<i>laetitiatotus</i> Becker	---; ---; 150, 151	Kröber	1924a
	---; ---; 318	Szilády	1923
<i>laevigatus</i> Szilády	---; ---; 31	Kröber	1939
<i>lana</i> Portschinsky	---; ---; 76, 353	Kröber	1924a
	---; ---; 210	Schuurmans Stekhoven	1931
<i>laotianus</i> Bigot	---; ---; 143	Schuurmans Stekhoven	1926
	---; ---; 144	Austen	1922
<i>lapponicus</i> Wahlberg	---; ---; 158, 256	Kono & Takahasi	1939
<i>lapponicus</i> albomaoulatus Zetterstedt	---; ---; 256	Kröber	1925
<i>Lateralbus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1932b
<i>Lateralis</i> Meigen	---; ---; 158, 256	Kröber	1924a
<i>Laticinotus</i> Schuurmans Stekhoven	---; ---; 143, 218, 366, 367	Schuurmans Stekhoven	1926
<i>Latifasoies</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>Latifrons</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>Latistriatus</i> Brauer	---; ---; 318	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>lativenter</i> Schuurmans Stekhoven	---; ---; 145, 146	Schuurmans Stekhoven	1926
<i>latus</i> Szilády	---; ---; 59	Szilády	1926
<i>leleaxi</i> Austen	---; ---; 28, 150, 256, 302, 345, 350, 354. ---; July; 143. ---; April-June; 151. ---; rocky bank; 159	Kröber Austen	1924a 1920
	---; ---; 143, 151, 342	Austen	1923
	---; Apr.-Aug.; 159	Buxton	1924
	---; ---; 162	Olsuf'ev	1937
	---; ---; 317	Austen	1925
<i>lentisignatus</i> Schuurmans Stekhoven	---; ---; 145, 190	Schuurmans Stekhoven	1926
<i>leucoonematus</i> Bigot	---; ---; 59, 143	Senior-White	1922
<i>leucohirtus</i> Ricardo	---; ---; 143	Senior-White	1927
<i>leuopogon</i> Bigot	---; ---; 143	Senior-White	1927
<i>leucosapareus</i> Bigot	---; ---; 144	Austen	1922
<i>loamyi</i> Szilády	---; ---; 146	Szilády	1926
<i>longibasalis</i> Schuurmans Stekhoven	---; ---; 76, 139	Schuurmans Stekhoven	1926
<i>longicornis</i> Schuurmans Stekhoven	---; near the shore; 146	Schuurmans Stekhoven	1926
<i>longirostris</i> Schuurmans Stekhoven	---; ---; 169	Schuurmans Stekhoven	1926
<i>luifer</i> Szilády	---; ---; 31, 76	Meiso	1945

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>lunatus</i> Fabricius	---; April-May; 154. ---; April; 159, 342 ---; ---; 317, 350 ---; ---; 345	Buxton Austen Kröber	1924 1925 1939
<i>lunatus</i> var. <i>bactrianus</i> Olsuf'ev	---; ---; 326	Kröber	1939
<i>lunatus</i> var. <i>labaumeanus</i> Enderlein	---; ---; 350	Kröber	1939
<i>lunatus</i> var. <i>politus</i> Szilády	---; ---; 302	Kröber	1925
<i>lunatus</i> <i>syriacus</i> Szilády	---; ---; 302	Kröber	1925
<i>turidus</i> Fallen	---; ---; 162 ---; common, May; 256 ---; ---; 256*	Szilády Olsuf'ev Skufin	1923 1937 1949
<i>macer</i> Bigot	On low foliage overhanging water, damp earth a few inches above edge of water; March-April, July, Oct.-Nov.; 143	Isaac	1925
<i>maufarlanei</i> Ricardo	---; ---, 76, 139	Wu	1940
<i>maulicornis</i> Zetterstedt	Swampy ground, river or lake banks, edge of forest; most active between 6:00 and 7:00 p.m.; 256* ---; May-June; 256	Fraser Olsuf'ev	1920 1937
<i>madagascariensis</i> Schauermans Stekhoven	---; ---; 146	Schauermans Stekhoven	1926
<i>major</i> Evermann	---; ---; 256	Sassachin et al.	1930
<i>malayensis</i> Ricardo	---; ---; 145 ---; rare; 146 ---; ---; 149, 190, 280 ---; ---; 242	Schauermans Stekhoven Nieschulz Schauermans Stekhoven Kröber	1932b 1935 1926 1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS mandarinus</i> Schiner	---; ---; 76, 139, 158. ---; Apr.-Aug.; 77°	Shiraki	1918
	---; ---; 77, 194	Kono & Takahasi	1939
	---; ---; 168	Haiao	1948
	---; ---; 256, 353	Kröber	1924
<i>manfarinus</i> Schiner	---; ---; 76, 77, 139, 158	Schuurmans Stekhoven	1931
<i>manipurensis</i> Ricardo	---; ---; 143	Senior-White	1927
<i>martinii</i> Kröber	---; ---; 31	Kröber	1939
<i>matsumurae</i> Ssildy	---; ---; 158	Shiraki	1932
<i>mediatrimaculatus</i> Schuurmans Stekhoven	---; ---; 144	Schuurmans Stekhoven	1932b
<i>melanognathus</i> Bigot	---; ---; 59, 143, 144, 277	Schuurmans Stekhoven	1926
<i>melanopygatus</i> Bigot	---; ---; 242	Kröber	1924
<i>mendicus</i> Villeneuve	---; ---; 154	Austen	1922b
	---; April; 302. ---; on bank of stream; 342	Austen	1920
<i>mentitus</i> Walker	---; ---; 76	Haiao	1945
<i>miki</i> Brauer	---; ---; 150	Kröber	1939
	---; June-July; 256°	Skufin	1949
	---; ---; 256	Anonymous	1945a
	---; ---; 345	Olaus'ev	1937
<i>miki</i> var. <i>niger</i> Olaus'ev	---; ---; 345	Kröber	1939
<i>minimus</i> van der Wulp	---; ---; 143, 146, 190. ---; all year; 149	Schuurmans Stekhoven	1926
	---; common; 149	Mieschulz	1935

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS miser</i> Szilády	---; ---; 256 ^a	Gutzevich	1947
<i>mietshenkoi</i> Olsuf'ev	---; ---; 303	Kröber	1939
<i>mixtus</i> Szilády	---; ---; 302, 317, 333, 342	Kröber	1924a
	---; ---; 345, 350	Kröber	1925
<i>miyajima</i> Ricardo	---; ---; 158, 256	Kröber	1924a
<i>miyakei</i> Shiraki	---; ---; 77	Shiraki	1918
<i>mongolensis</i> Kröber	---; ---; 353	Kröber	1934
<i>monilifer</i> Bigot	---; ---; 143	Schuurmans Stekhoven	1926
<i>monogolensis</i> Bigot	---; ---; 76	Hwang	1936
<i>monotaeniatus</i> (Bigot)	---; ---; 59, 76, 143	Wu	1940
	---; ---; 146	Schuurmans Stekhoven	1926
	---; ---; 147	Schuurmans Stekhoven	1924
<i>montanus</i> Meigen	---; ---; 76	Kröber	1934
	---; ---; 101	Dampf	1924
	---; ---; 158, 170, 353	Kono & Takahasi	1939b
	---; July-Aug.: 256 ^a	Skufin	1949
	---; June; 256	Olsuf'ev	1937
<i>morgani</i> Burrouf	---; ---; 150, 151	Kröber	1924a
<i>morio</i> Meigen	---; ---; 343	Kröber	1939
<i>nowaksi</i> Leclercq	---; ---; 150	Leclercq	1962

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>muhlfeldi</i> Brauer	---; ---; 162, 256 ---; ---; 353	Kröber	1925 1934
<i>multicinctus</i> Schuurmans Stekhoven	---; ---; 146, 149, 277	Schuurmans Stekhoven	1926
<i>napaensis</i> Nieschulz	---; ---; 149	Nieschulz	1927
<i>negativus</i> Ricardo	---; ---; 76, 77, 139	Schuurmans Stekhoven	1931
<i>nemocallous</i> Ricardo	Leaves and twigs over shallow water along river-banks, prefer hard caked up damp soil along river bank; in bushes, July, Oct.-Nov.; 143 ---; Jan., March-June, 143 ---; Dec.; 143	Isaac Fletcher	1925 1916 1917
<i>nemoralis</i> Meigen	---; April and May; 159 ---; ---; 256 ---; ---; 342	Buxton Sassachin et al. Kröber	1924 1930 1925
<i>nemoralis</i> var. <i>ruficornis</i> Surcouf	---; ---; 302	Surcouf	1920
<i>nephodes</i> Bigot	---; ---; 143	Senior-White	1927
<i>nigra</i> Walker	---; ---; 145, 149	Schuurmans Stekhoven	1926
<i>nicobaricus</i> Schiner	---; ---; 224	Senior-White	1927
<i>nigellus</i> Sr. (Laidy)	---; ---; 256	Kröber	1925
<i>nigerrimus</i> Schuurmans Stekhoven	---; ---; 145, 169	Schuurmans Stekhoven	1926
<i>nigriicornis</i> Zetterstedt	---; ---; 162 ---; ---; 256, 353 ---; ---; 256°	Kröber Kono & Takahashi Skufin	1925 1939b 1949

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>nigrifacies</i> Gobert	Swampy ground, river or lake banks, edge of forest; most active between 6:00 and 7:00 p.m. June-Aug.; 256°	Fraser	1920
<i>nigrifer</i> Walker	---; ---; 25	Kröber	1925
<i>nigripes</i> Enderlein	---; ---; 145	Schuurmans Stekhoven	1932
<i>nigritus</i> Fabricius	---; ---; 302, 317, 342, 350	Kröber	1924a
<i>nigrivitta</i> Olsuf'ev	---; June; 256°	Skufin	1949
<i>nigrocorpus</i> Kröber	---; ---; 256	Olsuf'ev	1937
<i>nigropictus</i> Macquart	---; ---; 143	Senior-White	1927
<i>nigrotectus</i> Bigot	---; ---; 144, 277	Austen	1922
<i>niveipalpis</i> Bigot	---; ---, 150, 345	Kröber	1939
<i>noctuinus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>obconicus</i> Walker	---; ---; 143	Senior-White	1927
<i>obscuratus</i> Walker	---; ---; 147	Schuurmans Stekhoven	1932b
<i>obtusipalpis</i> Schuurmans Stekhoven	---; ---; 147	Oldroyd	1948
<i>ochroaster</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>ochroceras</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1932b
<i>ochrogaster</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>ochros</i> Schuurmans Stekhoven	---; ---; 277	Schuurmans Stekhoven	1926
<i>ohnos</i> Surcouf	---; ---; 144	Surcouf	1921
<i>okinawanus</i> Shiraki	---; pine tree forest, in houses in the evening, sometimes attracted by lights; 158°. ---; ---; 257	Shiraki	1918
<i>oppugnator</i> Auster	---; ---; 317	Austen	1925
<i>optatus</i> Walker	---; ---; 143, 145, 146, 149, 190, 218, 366, 367	Schuurmans Stekhoven	1926
<i>orientalis</i> Wiedemann	---; ---; 76, 143	Hsiao	1945
<i>orientis</i> Walker	---; ---; 59 ---; ---; 76, 218 ---; at 7,000 feet elevation; 143	Senior-White Schuurmans Stekhoven Brunetti	1922 1931 1917
<i>oviventris</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>oxyceratus</i> Bigot	---; ---; 59, 143, 277 ---; ---; 235	Schuurmans Stekhoven Senior-White	1926 1922
<i>pallescens</i> Walker	---; ---; 25	Kröber	1925
<i>pallidipestatoratus</i> Bigot	---; ---; 76 ---; ---; 77, 144	Hwang Shiraki	1936 1918
<i>pallidipes</i> Austen	---; July-August, enters houses; 154 ---; ---; 159 ---; ---; 302, 342	Buxton Austen Kröber	1924 1922b 1925
<i>pallidiventer</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>pallitarsis</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>palpalis</i>			
var. <i>incertus</i>	---; ---; 143	Szilády	1926
<i>parabrunneus</i>	---; ---; 145	Schuurmans Stekhoven	1932
<i>paradoxus</i>	---; ---; 28, 256, 345	Kröber	1924a
Jaennicke	---; ---; 150	Kröber	1925
<i>parafuscomaculatus</i>	---; ---; 143	Schuurmans Stekhoven	1932b
Schuurmans Stekhoven			
<i>parahybridus</i>	---; ---; 143	Schuurmans Stekhoven	1932b
Schuurmans Stekhoven			
<i>parallelifrons</i>	---; ---; 145, 149	Schuurmans Stekhoven	1926
Schuurmans Stekhoven			
<i>paralleliventer</i>	---; ---; 149	Schuurmans Stekhoven	1926
Schuurmans Stekhoven			
<i>pararufiventris</i>	Small muddy pond; ---; 149	Nieschulz	1927
Nieschulz			
<i>parimixtus</i>	---; ---; 145	Schuurmans Stekhoven	1932b
Schuurmans Stekhoven			
<i>pavlovskii</i>	---; ---; 256	Olsuf'ev	1937
Olsuf'ev			
<i>peculiaris</i>	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
Szilády			
<i>peculiaris</i>	---; ---; 256	Kröber	1925
var. <i>kröberi</i>			
Szilády			
<i>perakiensis</i>	---; ---; 318, 326	Olsuf'ev	1937
Ricardo			
<i>perakiensis</i>	---; ---; 162	Kröber	1939
Ricardo			
<i>perakiensis</i>	---; ---; 77, 149, 190	Schuurmans Stekhoven	1926
Ricardo			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>persis</i> Ricardo	---; ---; 3, 150, 151, 342 (Along the creek banks and water courses)	Patton	1920
<i>petiolatus</i> Szilády	---; ---; 76	Hsiao	1945
<i>pfeifferi</i> Kröber	---; ---; 317	Kröber	1939
<i>philippinensis</i> Kröber	---; ---; 242	Kröber	1924
<i>pictiventris</i> Szilády	---; ---; 145	Szilády	1926
<i>platybasiannulatus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>plebejus</i> Fallen	---; ---; 256	Kono & Takahasi	1939b
<i>plebejus</i> var. <i>aethereus</i> Bigot	---; ---; 256	Kröber	1939
<i>pleskei</i> Kröber	---; ---; 194 ---; ---; 256° ---; ---; 256	Hsiao Gutzevich Kröber	1946 1947 1924a
<i>polaris</i> Frey	---; ---; 256 ---; ---; 294	Anonymous Olsuf'ev	1945a 1937
<i>politus</i> Walker	---; ---; 25	Kröber	1925
<i>polygonus</i> Walker	---; ---; 150 Creek banks; common, March-Sept.; 151	Kröber Patton	1925 1920
<i>portschinskii</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>praenaturus</i> Austen	---; enters houses, bites at day-break; 277°	Austen	1922
<i>pratti</i> Ricardo	---; ---; 145, 190	Schuurmans Stekhoven	1926
<i>provincialis</i> Ricardo	---; ---; 143	Senior-White	1927

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>pseudo-</i> <i>pallidepectoratus</i> Surcouf	---; ---; 144	Surcouf	1922
<i>peseudorufiventris</i> Schuurmans, Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>pugnulus</i> Austen	---; ---; 277	Austen	1922
<i>pugnax</i> Austen	---; ---; 277°	Austen	1922
<i>pulchellus</i> Loew	---; ---; 3. ---; around lamp at night, on screen in tent; 151	Austen	1923
	---; ---; 150, 350, 354	Kröber	1925
	Marsh; enter huts, May-July; 151	Patton	1920
	---; ---; 235	Senior-White	1927
	---; ---; 317	Anonymous	1944
	---; ---; 318	Kröber	1939
	---; ---; 342	Bodenheimer	1937
	---; ---; 354	Olsuf'ev	1937
<i>pulchriventris</i> Portschinsky	---; ---; 210	Hwang	1936
	---; ---; 353	Heiao	1945
<i>pulverifer</i> Walker	---; ---; 150, 302, 342	Kröber	1924a
	Marshy area, along the river; ---; 151. ---; ---; 317	Patton	1920
	---; April-June; 151	Austen	1923
	---; ---; 235	Senior-White	1927
<i>pusillus</i> Egger	---; ---; 76	Heiao	1945
	---; ---; 350	Kröber	1925
<i>puteus</i> Ricardo	---; ---; 70	Schuurmans Stekhoven	1926
<i>quadrisarius</i> Loew	---; ---; 151, 162, 256	Kröber	1925
<i>quatuornotatus</i> Meigen	---; ---; 321	Kröber	1939
	---; June-Aug.; 345	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>quinquecinctus</i> Ricardo	---; ---; 77°	Shiraki	1918
<i>rectilineatus</i> Schuurmans Stekhoven	---; ---; 143, 218, 366, 367	Schuurmans Stekhoven	1926
<i>rectus</i> Loew	---; ---; 302, 342, 350	Kröber	1924a
<i>recusans</i> Walker	---; ---; 147	Oldroyd	1948
<i>reducens</i> Walker	---; ---; 143	Schuurmans Stekhoven	1924
	---; ---; 145, 147, 242	Schuurmans Stekhoven	1926
<i>regularis</i> Jaennicke	---; ---; 150, 342. ---; on stems of orange trees at mid-day; 151	Austen	1923
	---; ---; 159, 235	Austen	1920
	---; ---; 302, 350	Kröber	1924a
<i>regularis</i> <i>rufus</i> Szilády	---; ---; 150, 151, 345	Leclercq	1961
	---; ---; 342	Kröber	1925
<i>reintgianus</i> Enderlein	---; ---; 256	Olsuf'ev	1937
<i>rohdendorfi</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>rousselii</i> Macquart	---; ---; 302, 350	Austen	1923
<i>rubicundulus</i> Austen	---; ---; 277	Austen	1922
<i>rubicundus</i> Macquart	---; ---; 59, 70, 143, 146	Senior-White	1922
<i>rubidoides</i> Szilády	---; ---; 143	Szilády	1926
<i>rubidus</i> Wiedemann	---; ---; 59, 70, 76, 139, 144, 190, 218, 277, 280. ---; all year; 149	Schuurmans Stekhoven	1926
	Twigs and leaves overhanging water, wet soil close to water edge, on plants on the banks of stagnant pools, on foliage several feet above water; March- April, July, Oct.-Nov.; 143	Isaac	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>rubidus</i> Wiedemann (cont.)	---; open or scarcely forested regions, Dec.; 146. ---; open or scarcely forested regions; 149	Nieschulz	1935
	Running and stagnant water in forests, marshes, brackish water; ---; 146	Nieschulz	1926
	---; ---; 235	Schuurmans Stekhoven	1931
	---; ---; 242, 366	Krüber	1924
<i>rubidus</i> <i>priscoides</i> Wiedemann	---; ---; 143, 146	Schuurmans Stekhoven	1926
<i>rubidus</i> <i>violaceus</i> Wiedemann	---; ---; 146, 280	Schuurmans Stekhoven	1926
<i>rubriscutatus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>rubriventris</i> Macquart	---; ---; 147	Oldroyd	1948
<i>rufidens</i> (Bigot)	---; ---; 158, 256	Krüber	1924a
<i>rufimedius</i> Szilády	---; ---; 144	Szilády	1926
<i>rufinotatus</i> (Bigot)	---; ---; 76	Heino	1945
<i>rufiscutellatus</i> Schuurmans Stekhoven	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>rufiventris</i> Fabricius	---; ---; 59, 158	He	1940
	---; ---; 76, 139, 146, 149, 190, 218. ---; on road near sea shore; 77. ---; in houses; 143	Schuurmans Stekhoven	1926
	---; ---; 143, 147	Schuurmans Stekhoven	1931
	Forest streams; ---; 146, 149	Nieschulz	1926
	---; ---; 158	Heino	1945
<i>rufofrater</i> Walker	---; ---; 76	Heino	1945
<i>rupinae</i> Austen	---; May-July; 159	Buxton	1924
	---; ---; 302, 342, 350	Krüber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>rupium</i> Brauer	---; ---; 345	Olsuf'ev	1937
<i>rusticus</i> Linnaeus	---; ---; 158	Kröber	1925
	---; ---; 162	Sassuchin et al.	1930
	---; July & August; 256*	Skufin	1949
	---; ---; 256, 345	Kröber	1939
	---; ---; 294	Olsuf'ev	1937
<i>rusticus</i> <i>parallelifrons</i> Szilády	---; ---; 162	Szilády	1923
	---; ---; 256	Kröber	1925
<i>sabuletorum</i> Loew	---; ---; 31, 256, 345, 353	Haiao	1945
	---; ---; 150	Kröber	1925
<i>sachalinensis</i> Enderlein	---; ---; 76	Kröber	1934
<i>sagittipalpis</i> Szilády	---; ---; 143	Szilády	1926
<i>salvazai</i> Surcouf	---; ---; 144	Surcouf	1921
<i>sanguineus</i> Walker	---; ---; 59, 139, 146, 147, 149, 158, 190, 256, 353	Kröber	1924a
	---; ---; 76, 277. ---; June, July and Sept.; 77	Shiraki	1918
	---; Nov.-Jan.; 143	Fletcher	1920
	---; May; 143	Fletcher	1916
<i>sapporoensis</i> Shiraki	---; ---; 77	Schuurmans Stekhoven	1932b
	---; ---; 158*	Shiraki	1918
	---; ---; 158	Kono & Takahasi	1939
<i>sapporoensis</i> Shiraki	---; ---; 77	Schuurmans Stekhoven	1932b
	---; ---; 158, 256	Kono & Takahasi	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>bareptanus</i> Szilády	---; ---; 256	Kröber	1925
<i>bareptanus</i> <i>melas</i> Szilády	---; ---; 256	Kröber	1925
<i>cauteri</i> Ricardo	---; mountains; 77°	Shiraki	1918
<i>semenovi</i> Olsuf'ev	---; ---; 166, 326	Kröber	1939
<i>semiargenteus</i> Olsuf'ev	---; ---; 28, 345	Kröber	1939
<i>semipollinosus</i> Olsuf'ev	---; ---; 162, 256	Olsuf'ev	1937
<i>semirufus</i> Szilády	---; ---; 144	Szilády	1926
<i>serus</i> Walker	---; ---; 147	Schuurmans Stekhoven	1932b
<i>servillei</i> Macquart	---; ---; 146	Schuurmans Stekhoven	1926
<i>sexcinotus</i> Ricardo	---; ---; 59, 77, 143, 164, 277 ---; ---; 76, 235	Schuurmans Stekhoven	1926
<i>shelkounikovi</i> Paramonov	---; ---; 28	Kröber	1939
<i>shirakii</i> (Enderlein)	---; ---; 76	Keiso	1943
<i>shnitnikovi</i> Olsuf'ev	---; ---; 162, 256	Olsuf'ev	1937
<i>siamensis</i> Ricardo	---; ---; 277	Austen	1922
<i>sieberi</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1928
<i>signifer</i> Walker	---; ---; 76 ---; ---; 144	Keiso	1943
		Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>significans</i> Ricardo	---; ---; 190	Schuurmans Stekhoven	1926
<i>significans</i> <i>inaequesignatus</i> Ricardo	---; ---; 145	Schuurmans Stekhoven	1932b
<i>simplissimus</i> Walker	---; ---; 145, 190, 280 ---; ---; 149	Schuurmans Stekhoven	1926 1932b
<i>sinensis</i> Szilady	---; ---; 76 ---; ---; 139	Anonymous Hsiao	1945 1945
<i>sinicus</i> Walker	---; ---; 76, 139	Schuurmans Stekhoven	1926
<i>scambawensis</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>solstitialis</i> Schiner	---; experimental transmission of tularemia; 162 ---; June, experimental transmission of tularemia; 256. ---; ---; 345 ---; June-July; 256* ---; ---; 350	Olsuf'ev & Golov Olsuf'ev Skufin Kröber	1936 1937 1949 1925
<i>speciosus</i> Ricardo	---; ---; 70 ---; Aug.; 143	Senior-White Fletcher	1927 1930
<i>spectabilis</i> Loew	---; ---; 150, 151, 302, 317, 342, 350 ---; ---; 256, 318, 321, 326, 345, 354	Kröber Olsuf'ev	1924a 1937
<i>speculum</i> Walker	---; ---; 145, 190	Schuurmans Stekhoven	1926
<i>spodopterus</i> Meigen	---; ---; 23, 150, 151, 256, 345	Kröber	1924a
<i>spoliatus</i> Walker	---; ---; 145	Schuurmans Stekhoven	1926
<i>stomopeelaphus</i> Olsuf'ev	---; ---; 256	Olsuf'ev	1937
<i>stigmopterus</i> Olsuf'ev	---; ---; 168, 236	Kono & Takahasi	1939a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>striatus</i> Fabricius	---; ---; 59, 139, 144, 180, 185, 218, 235, 280, 337, 367. ---; all year; 149. ---; in houses; 277	Schuurmans Stekhoven	1926
	---; ---; 70, 76	Schuurmans Stekhoven	1931
	---; active at sunset, rest by day on shaded tree trunks; 143	Isaac	1925a
	---; Feb., June, Oct.; 143	Fletcher	1916
	---; ---; 145, 147	Schuurmans Stekhoven	1932
	---; Nov. and Dec.; 146	Nieschulz	1915
	Prefers open country; ---; 146, 149	Nieschulz	1926
	Creek, aquatic plants, drift wood, stones; active between 7:00 and 8:00 a.m., 3:30 to 6:00 p.m., Aug., Sept., Oct., and Dec.; 242	Mitzmain	1913
	---; attack especially children in vicinity of cattle or horses, bloodsucker; 242°	Banks	1919
	---; ---; 349	de Mello & Afonso	1921
<i>strictus</i> Surcouf	---; ---; 150, 151	Kröber	1924a
<i>strix</i> Skildy	---; ---; 151	Kröber	1925
<i>subcallosus</i> Ricardo	---; ---; 143	Senior-White	1927
<i>subhirtus</i> Ricardo	---; ---; 143, 146	Senior-White	1927
<i>subcallosus</i> Ol'suf'ev	---; ---; 162, 342, 353	Kröber	1939
<i>suocurusus</i> Walker	---; ---; 145	Schuurmans Stekhoven	1926
	Along the river banks, marshes, stagnant pools; ---; 147	Schuurmans Stekhoven	1924
<i>suadensis</i> Zeller	---; ---; 150, 151, 256	Kröber	1924a
	---; ---; 256°	Skofia	1949

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>sufis</i> Jaennicke	---; ---; 143	Senior-White	1927
	---; March-June; 151	Austen	1923
	Creek banks and water courses; ---; 151	Patton	1920
	---; ---; 159	Austen	1924
	---; ---; 302, 342, 350	Kröber	1924a
<i>suicifrons</i> Macquart	---; ---; 143	Isaac	1925a
<i>sulfureoene</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1932b
<i>sveti-hadzini</i> Kröber	---; ---; 76	Kröber	1934
<i>swiridovi</i> Portschinsky	---; ---; 28, 29, 345	Kröber	1924a
	---; ---; 347	Kröber	1928
<i>syriacus</i> Kröber	---; ---; 302, 342, 350	Kröber	1924a
<i>sylviooides</i> Walker	---; ---; 147	Schuurmans Stekhoven	1926
<i>szechenyianus</i> Szilády	---; ---; 144	Szilády	1926
<i>sziladyi</i> Schuurmans Stekhoven	---; ---; 76	Schuurmans Stekhoven	1932b
<i>takasagoensis</i> Shiraki	---; ---; 76, 77, 158, 256, 333	Kröber	1924
<i>tarantinoides</i> Olsuf'ev	---; ---; 194	Meiso	1946
	---; ---; 256	Olsuf'ev	1937
<i>tarantinum</i> Linnaeus	---; ---; 77, 158, 353	Kono & Takahasi	1939
	Swampy grounds, river or lake banks, edges of forests; most active between 6:00 and 7:00 p.m., June-Aug.; 256°	Fraser	1920
	---; May-June; 256	Olsuf'ev	1937
<i>tartaticus</i> <i>bicolor</i> Szilády	---; ---; 76	Hwang	1936

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>tartaricus</i>			
<i>sonatus</i> Szilády	---; ---; 326	Kröber	1925
<i>tataricus</i> Portschinsky	---; ---; 31, 76, 162, 256 ---; ---; 166, 326 ---; ---; 317 ---; ---; 353	Wu Szilády Schuurmans Stekhoven Hwang	1940 1923 1931 1936
<i>tataricus</i> <i>aurantiacus</i> Szilády	---; ---; 326	Kröber	1925
<i>tenasserimi</i> Szilády	---; ---; 59	Szilády	1926
<i>tenebrosus</i> Walker	---; ---; 143	Schuurmans Stekhoven	1926
<i>tenens</i> Walker	---; ---; 70, 218, 366, 367 ---; ---; 76, 122, 146, 149, 190 Twigs and leaves above water along margin of small streams; walls of houses, March-April, July, Oct.- Nov.; 143 ---; common; 143	Schuurmans Stekhoven Senior-White Isaac	1926 1927 1925
<i>tener</i> Osten-Sacken	---; ---; 76	Wu	1940
<i>tenuicornis</i> Enderlein	---; ---; 345	Kröber	1939
<i>tergestinus</i> Egger	---; ---; 256 ^a ---; ---; 345	Skufin Olsuf'ev	1949 1937
<i>terminalis</i> Walker	---; ---; 25	Kröber	1924a
<i>testaceus</i> Porskal	---; ---; 25	Kröber	1924a
<i>tetricus</i> Szilády	---; ---; 256, 345	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>tibetanus</i> Szilády	----; ---; 76	Hsiao	1945
<i>tiluensis</i> Nieschulz	----; ---; 146	Nieschulz	1927
<i>tinctothorax</i> Ricardo	----; ---; 190, 277	Schuurmans Stekhoven	1928
<i>tinctus</i> Walker	----; ---; 150, 345	Leclerq	1961
<i>tinnunculus</i> Szilády	----; ---; 151	Szilády	1923
<i>tong-lai</i> Surcouf	----; ---; 144	Surcouf	1922
<i>transversus</i> Walker	----; ---; 145	Ricardo	1914a
<i>i-triangularis</i> Schuurmans Stekhoven	----; ---; 144	Schuurmans Stekhoven	1932b
<i>5-triangularis</i> Schuurmans Stekhoven	----; ---; 242	Schuurmans Stekhoven	1932b
<i>trichinopolis</i> Ricardo	----; ---; 143	Ricardo	1914
<i>tricolor</i> Zeller	----; ---; 28, 162, 256, 345, 350	Kröber	1925
<i>tricolor</i> var. <i>albifasciatus</i> Enderlein	----; ---; 345	Kröber	1939
<i>tricolor</i> var. <i>pallidicaudus</i> Oleuf'ev	----; ---; 256	Kröber	1939
<i>tricolor</i> var. <i>ruficaudus</i> Enderlein	----; ---; 350	Kröber	1939
<i>tricoloratus</i> Schuurmans Stekhoven	----; ---; 146	Schuurmans Stekhoven	1926

TABLE 1 - HCRSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>trigonus</i> Coquillett	---; June-Sept., active between 2:00 and 7:00 p.m.; 158°	Shiraki	1918
	---; ---; 158	Kono & Takahasi	1939b
	---; ---; 256	Kröber	1924a
<i>trinomincta</i> Senior-White	---; ---; 143	Senior-White	1927
<i>tristis</i> van der Wulp	---; ---; 149	Schuurmans Stekhoven	1926
<i>tropicus</i> Panzer	---; ---; 77	Kröber	1925
	---; ---; 143, 146	Senior-White	1927
	---; ---; 158, 170, 194	Kono & Takahasi	1939
	---; May-June; 256	Olsuf'ev	1937
	---; ---; 256°	Skufin	1949
<i>tropicus</i> var. <i>bisignatus</i> Jaennicke	---; June; 256	Fraser	1920
<i>tuberculatus</i> Ricardo	---; ---; 143	Senior-White	1927
<i>tunicatus</i> var. <i>rufescens</i> Szilády	---; ---; 302	Kröber	1939
<i>turkestanus</i> Szilády	---; ---; 76, 166	Kröber	1934
	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
<i>turkestanus</i> <i>ater</i> Szilády	---; ---; 162	Kröber	1923
<i>turkestanus</i> <i>minor</i> Szilády	---; ---; 162	Kröber	1925
<i>umbrinus</i> Meigen	---; ---; 159°	Austen	1924
	---; ---; 317	Austen	1925
	---; ---; 318, 326, 345, 354	Olsuf'ev	1937
	---; ---; 342, 350		

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>undulans</i> Schuurmans Stekhoven	---; ---; 149, 190	Schuurmans Stekhoven	1926
<i>unifasciatus</i> Loew	---; ---; 28, 256, 302, 317, 342, 345, 350, 354	Kröber	1924a
<i>unifasciatus</i> var. <i>albescens</i> Kröber	---; ---; 317	Kröber	1939
<i>uniformis</i> Ricardo	---; ---; 190	Schuurmans Stekhoven	1926
<i>univentris</i> Walker	---; ---; 145, 146, 190, 242	Kröber	1924
<i>ussuriensis</i> Olsuf'ev	---; ---; 256	Olsuf'ev	1937
<i>vagans</i> Walker	---; ---; 139	Hwang	1936
<i>vanderwulpi</i> Osten Sacken	---; ---; 242	Schuurmans Stekhoven	1932b
<i>ventri-</i> <i>flavimarginatus</i> Schuurmans Stekhoven	---; ---; 145, 149	Schuurmans Stekhoven	1926
<i>virgo</i> Wiedemann	On foliage hanging over streams, in damp soil on banks of streams; attracted to light, March-April, July, Oct.-Nov.; 143	Isaac	1925
<i>virgulatus</i> Austen	---; ---; 277	Austen	1922
<i>vulpes</i> Szilády	---; ---; 342	Kröber	1925
<i>wallacei</i> Szilády	---; ---; 143	Szilády	1926
<i>wyvillei</i> Ricardo	---; ---; 143	Senior-White	1927
<i>xanti</i> Szilády	---; ---; 145	Szilády	1926
<i>yao</i> Macquart	---; ---; 76, 158, 168 ---; ---; 77, 143	Kono & Takahasi	1939a
		Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>zebrinus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>zimini</i> Olsuf'ev	---; ---; 150	Kröber	1939
<i>znokoi</i> Olsuf'ev	---; ---; 35, 345	Kröber	1939
<i>THERIOPLECTES</i>			
<i>acuminatus</i> Loew	---; ---; 256	Kröber	1923
<i>astur</i> Erichson	---; ---; 162, 256	Kröber	1923
<i>aterrimus</i> Meigen	---; ---; 345	Kröber	1923
<i>borealis</i> Loew	---; ---; 256	Kröber	1923
<i>brevis</i> Loew	---; ---; 256	Kröber	1923
<i>caucasi</i> Szilády	---; ---; 345	Kröber	1925
<i>confinis</i> Zetterstedt	---; ---; 256	Kröber	1923
<i>decorus</i> Loew	---; ---; 154, 159, 174, 302, 342	Kröber	1923
<i>decorus</i> var. <i>cyanops</i> Brauer	---; ---; 302	Kröber	1923
<i>distinguendus</i> Verrall	---; ---; 158, 256	Shiraki	1918
<i>erberi</i> Brauer	---; ---; 256	Kröber	1923
<i>flavipes</i> Wiedemann	---; ---; 256	Kröber	1923
<i>hirticeps</i> Loew	---; ---; 158, 256	Kröber	1923
<i>hirtus</i> Walker	---; ---; 143	Brunetti	1917

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>THERIOPLECTES</i>			
<i>lapponicus</i> Wahlberg	---; ---; 256	Kröber	1923
<i>lapponicus</i> var. <i>albonotatus</i> Zetterstedt	---; ---; 256	Kröber	1923
<i>lateralis</i> Meigen	---; ---; 256	Kröber	1923
<i>luridus</i> Fallen	---; ---; 256	Kröber	1923
<i>mendicus</i> Villeneuve	---; ---; 302	Kröber	1922a
	---; ---; 342	Kröber	1923
<i>montanus</i> Meigen	---; ---; 158, 256	Kröber	1923
<i>montanus</i> var. <i>immaculiventris</i> Kröber	---; ---; 162, 166	Kröber	1923
	---; ---; 256	Kröber	1922a
<i>muhlfeldi</i> Brauer	---; ---; 162, 256, 350	Kröber	1923
<i>nigellus</i> Szilády	---; ---; 256	Kröber	1923
<i>nigricornis</i> Zetterstedt	---; ---; 256	Kröber	1923
<i>nigricorpus</i> Kröber	---; ---; 162, 166	Kröber	1923
<i>nitidifrons</i> Szilády	---; ---; 256	Kröber	1923
<i>pulchriventris</i> Portschinsky	---; ---; 210	Kröber	1923
<i>sareptanus</i> Szilády	---; ---; 256	Kröber	1923
<i>sareptanus</i> var. <i>melas</i> Szilády	---; ---; 256	Kröber	1923
<i>solstitialis</i> Schiner	---; ---; 256, 350	Kröber	1923
<i>suballosus</i> Ricardo	---; ---; 143	Brunetti	1917

TABLE 1 - HORSE FLIES (concluded)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>THERIOPLECTES</i>			
<i>tarandinus</i> Linnaeus	---; Aug.; 77. ---; ---; 158, 256	Shiraki	1918
<i>tataricus</i> Portschinsky	---; ---; 162, 166, 256	Kröber	1923
<i>tetricus</i> Szilády	---; ---; 166, 256, 345	Kröber	1925
<i>tricolor</i> <i>albifascia</i> Enderlein	---; ---; 345	Kröber	1925
<i>tricolor</i> <i>ruficauda</i> Enderlein	---; ---; 350	Kröber	1925
<i>tropicus</i> Panzer	---; ---; 77, 158, 256	Kröber	1923
<i>tropicus</i> var. <i>bisignatus</i> Jaennicke	---; ---; 256	Kröber	1923
<i>TYLOSTYPIA</i>			
<i>reinigiana</i> Enderlein	---; ---; 303	Enderlein	1934
<i>TYLOSTYPINA</i>			
<i>nigrocinota</i> Enderlein	---; ---; 162	Kröber	1925
<i>UDENOCERA</i>			
<i>brunnea</i> Ricardo	---; ---; 70	Senior-White	1927

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F. BITING FLIES

Biting flies belong to several families. *Glossina tachinoides* Westwood was recorded in Aden and the Arabian Peninsula.

The table includes 9 species or subspecies.

TABLE 1 - BITING FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA tachinoides</i> Westwood	---; ---; 2 ---; ---; 25	Lewis Gill	1949 1916
<i>HAEMATOBLIA sanguisugens</i> Austen	Dung in a crack or crevice; Apr.-Nov.; 143°	Mitter	1916
<i>HAEMATOBOSSA perturbans</i> Bezzii	---; occasionally bites man; 76°, 168°	Barnett & Toshioka	1951
<i>LYPEROSIA exigua</i> de Meijere	---; seldom bites man; 146°	Handschin	1933
<i>minuta</i> Bezzii	---; troublesome in early morning and at sunset; 154°	Austen	1921
<i>SIPEONA irritans</i> (Linnaeus)	---; occasionally bites man; 168° ---; ---; 317°	Barnett & Toshioka Anonymous	1951 1944
<i>STOMOXYS calcitrans</i> Linnaeus	---; rarely bites; 76° ---; Apr.-Nov.; 143° ---; ---; 151° ---; enters houses; 154° ---; May; 159° Mixture of straw and manure, decaying seaweed; vicious biter, biting during the day; 168° ---; experimental transmission of cutaneous leishmaniasis; 174 ---; Nov.-Dec.; 233° Animal manure; resting in interwoven cross-wire fence, attack man especially after rain shower, numerous between 5 a.m. and 6:40 a.m., all year; 242° ---; June, Aug.; 256	Meng Mitter Acton Austen Buxton Barnett & Toshioka Berberian Gill Mitzmain Fraser	1943 1916 1919 1921 1924 1951 1938 1916 1913 1920

TABLE 1 - BITING FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STOMOXYS</i> <i>calcitrans</i> Linnaeus	---; ---; 303° Cow dung; ---; 317°	Smirnov	1940
<i>nigra</i> Macquart	Decomposing animal and vegetable matter; bloodsucker; 242°	Anonymous	1944
		Banks	1919

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G. NON-BITING FLIES

The entries for non-biting flies include representatives of several groups. Of course, the most important species in this category are those that feed as larvae on the tissues of living animals.

The tables include 36 species or subspecies.

TABLE 1 - NON-BITING FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APHIOCHAETA</i>			
<i>rufipes</i>	---; ---; 143*	Patton	1921
Meigen	---; ---; 143°	Patton	1920
<i>scalaris</i>	---; lays eggs in cuts and sores; 76*, 190*	Patton	1926
Meigen	---; ---; 143*	Strickland & Roy	1941
<i>xanthina</i>	---; ---; 143*	Patton	1922
Speiser	---; ---; 143°	Patton	1920
<i>CALLIPHORA</i>			
<i>erythrocephala</i>	---; ---; 302*	Anonymous	1944a
(Macquart)			
<i>CEPHALOMYIA</i>			
<i>ovis</i>	---; ---; 303*	Pavlovskii	1929
Linnaeus			
<i>CHRYSOMYIA</i>			
<i>bezaiana</i>	---; ---; 59*, 70*, 143*	Patton	1921
Villeneuve	---; ---; 59*, 366*	Strickland & Roy	1941
	---; ---; 76*	Patton	1926
	---; ---; 143°	Patton	1920
	---; ---; 144*	Motaïs & Borel	1928
	---; ---; 144*	Massias	1930
	---; ---; 242*, 277*	Geigy & Herbig	1955
<i>dux</i>	---; ---; 144*	Massias	1930
Eschscholtz	---; ---; 235*	Sinton	1921
<i>flaviceps</i>	---; ---; 143*	Fletcher	1917
Meigen			
<i>megacephalo</i>	---; ---; 144*	Massias	1930
(Fabricius)			
<i>ERISTALIS</i>			
<i>tenax</i>	---; ---; 76*	Meng	1943
Linnaeus			

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GASTROPHILUS</i>			
<i>haemorrhoidalis</i> (Linnaeus)	---; ---; 302*	Anonymous	1944a
<i>pecorum</i> Fabricius	---; ---; 318*	Paramonov	1940
<i>HYPODERMA</i> <i>bovis</i> Linnaeus	---; ---; 321*	Pavlovskii & Glezer	1932
<i>diana</i> Brauer	---; ---; 256*	Anonymous	1944
<i>lineatum</i> de Villers	---; ---; 143*°	Geigy & Herbig	1955
	---; ---; 321*	Pavlovskii & Glezer	1932
	---; ---; 345*	Seguy	1928
<i>LUCILIA</i> <i>sericata</i> (Meigen)	---; ---; 76*	Patton	1926
	---; ---; 143*, 235*	Sinton	1921
	---; ---; 321*	Paramonov	1937
	---; myiasis in wound causing gangrene; 342*	Buxton	1924
<i>MUSCA</i> <i>domestica</i> Linnaeus	---; ---; 321*	Yatzenko et al	1934
<i>sorbens</i> Wiedemann	---; enters houses; 76°, 150°, 256°, 270°, 302°, 342°. ---; enters houses, mechanical transmitter of eye disease organisms; 151°	Patton	1933
	---; ---; 302**	Anonymous	1944a
<i>tempestriva</i> Fallen	---; common; 76°. ---; ---; 143°, 150°, 151°, 253°, 270°, 302°, 342°	Patton	1933
<i>vitripennis</i> Meigen	---; ---; 143°, 150°, 151°, 253°, 270°, 302°, 342°	Patton	1933
<i>MUSCINA</i> <i>stabulans</i> (Fallen)	---; ---; 168*	Kobayashi	1925
	---; ---; 302*	Anonymous	1944a

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OESTRUS</i> <i>ovis</i> Linnaeus	---; ---; 342*	Buxton	1924
<i>PHAENICIA</i> <i>sericata</i> (Meigen)	---; ---; 76*	Hsiao	1945
<i>PHILAEOMATOMYIA</i> <i>crassirostris</i> Stein	---; ---; 143* ---; ---; 342°	Patton	1922a
<i>RAVINIA</i> <i>trivialis</i> (van der Wulp)	---; ---; 143*	Austen	1921
<i>RHINOESTRUS</i> <i>purpureus</i> Brauer	---; ---; 76°. ---; Aug. and Sept.; 350° ---; ---; 162* ---; ---; 256* ---; ---; 303* ---; ---; 342°	Seguy	1928
<i>SARCOPHAGA</i> <i>carnaria</i> Linnaeus	---; ---; 143*	Portchinsky	1915
<i>dux</i> Thomson	---; ---; 143**	Patton	1922
<i>haemorrhoidalis</i> (Fallen)	---; ---; 31*	Pavlovskii	1929
<i>hirtipes</i> Wiedemann	---; ---; 76*	Patton	1921
<i>latifrons</i> (Fallen)	---; ---; 76*, 321*	Strickland & Roy	1941
<i>peregrina</i> Robineau-Desvoidy	---; ---; 76, 77, 148 (Found in digestive tube of man)	Seguy	1928
<i>ruficornis</i> Fabricius	---; ---; 366**	Strickland & Roy	1941

TABLE 1 - NON-BITING FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIPHUNCULINA</i> <i>funicola</i> de Meijere	---; attacks man about eyes and on wounds; 143°	Fletcher et al	1919
<i>SYNTHESIOMYIA</i> <i>nudiseta</i> van der Wulp	---; ---; 143°	Siddons & Roy	1942
<i>WOHLFAHRTIA</i> <i>magnifica</i> Schiner	---; ---; 256°, 350° ---; ---; 256° ---; ---; 302°	Patton Sinton Anonymous	1921 1921 1944a

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	:	
	:	:	:	:	:	
<i>APHIOCHAETA</i> <i>rufipes</i> Meigen				Tissue & intestinal myiasis	143	
<i>scalaris</i> Meigen				Myiasis	76, 190	
				Intestinal myiasis	143	
<i>xanthina</i> Speiser				Myiasis	143	
<i>CALLIPHORA</i> <i>erythrocephala</i> (Macquart)				Myiasis	302	
<i>CEPHALOMYIA</i> <i>ovis</i> Linnaeus				Ocular myiasis	303	
<i>CHrysomyia</i> <i>bezziana</i> Villeneuve				Rhinal, oral, ocular, vaginal & cutaneous myiasis	59, 70, 143	
				Inside dura mater of cord myiasis	59 (Strickland & Roy, 1941)	
				Nasal myiasis	366	
				Myiasis	76	
				Ocular myiasis	144	
				Genital myiasis	144 (Massias, 1930)	
				Myiasis	242, 277	
<i>dux</i> Eschscholtz				Nasal myiasis	144, 235	
<i>flaviceps</i> Meigen				Nasal & tumorous myiasis	143	
<i>megacephala</i> (Fabricius)				Myiasis	144	

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES (continued)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
	:	:	:	:	:	
<i>ERISTALIS</i> <i>tenax</i> Linnaeus					Gastro-intestinal myiasis	76
<i>GASTEROPHILUS</i> <i>haemorrhoidalis</i> (Linnaeus)					Subcuticular myiasis	302
<i>pecorum</i> Fabricius					Myiasis	318
<i>HYPODERMA</i> <i>bovis</i> Linnaeus					Ocular myiasis	321
<i>diana</i> Brauer					Myiasis	256
<i>lineatum</i> de Villars					Myiasis	143
					Ocular myiasis	321
					Myiasis	345
<i>CUCILIA</i> <i>sericata</i> (Meigen)					Myiasis	76
					Cutaneous myiasis	143, 235
					Myiasis	321
					Myiasis	342
<i>MUSCA</i> <i>domestica</i> Linnaeus					Urethral myiasis	321
<i>sorbens</i> Wiedemann		Amoebic dysentery			Bacillary dysentery	302
<i>MUSCA</i> <i>stabulans</i> (Fallen)					Intestinal myiasis	168
					Intestinal myiasis	302

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES (continued)

SPECIES	DISEASE OR DISEASE ORGANISMS					COUNTRY
	: VIRUS &	:	:	:	:	
	: RICKETTSIA	: PROTOZOA	: HELMINTHS	: OTHER	:	
<i>OESTRUS</i> <i>ovis</i> Linnaeus				Ocular myiasis	342	
<i>PHAENICIA</i> <i>sericata</i> (Meigen)				Myiasis	76	
<i>PHILAEMATOMYIA</i> <i>crassirostris</i> Stein				Intestinal myiasis	143	
<i>RAVINIA</i> <i>travialis</i> (van der Wulp)				Myiasis	143	
<i>RHINCESTRUS</i> <i>purpures</i> Brauer				Ocular myiasis	162	
				Ocular myiasis	256	
				Ocular myiasis	303	
				Ocular myiasis	342	
				Myiasis	350	
<i>SARCOPHAGA</i> <i>carnaria</i> Linnaeus				Nasal myiasis	143	
<i>dux</i> Thomson				Cutaneous and intestinal myiasis	143	
<i>haemorrhoidalis</i> (Fallen)				Intestinal and body cavity myiasis	31	
<i>hirtipes</i> Wiedemann				Intestinal myiasis	76	
<i>latifrons</i> (Fallen)				Body cavity myiasis	76, 321	
<i>ruficornis</i> Fabricius				Cutaneous and intestinal myiasis	366	

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES (concluded)

SPECIES	DISEASE OR DISEASE ORGANISMS					COUNTRY
	VIRUS &	:	PROTOZOA	HELMINTHS	OTHER	
<i>SYNTHESIOMYIA</i>						
<i>nudiseta</i>					Myiasis	143
van der Wulp						
<i>WOHLFAHRTIA</i>					Myiasis	256
<i>magnifica</i>					Myiasis	302
Schiner						

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H. FLEAS

The entries for fleas include almost no biology. Very few authors deal with flea biology. A few comment on fleas as vectors, but most of the literature deals with taxonomy and hosts. Only when the flea species is said to bite man is a host recorded.

The tables include 717 species or subspecies.

TABLE 1 - PLEAS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ACERATOPHYLLUS</i> <i>euteles</i> (Jordan & Rothschild)	---; ---; 76	Wu	1940
<i>javanicus</i> (Ewing)	---; ---; 146	Kopstein	1931
<i>phillipsi</i> (Jordan)	---; ---; 70	Thompson	1937
<i>episema</i> Rothschild	---; ---; 143	da Costa Lima & Hathaway	1946
<i>AMPHALIUS</i> <i>clarus</i> (Jordan & Rothschild)	---; ---; 76	Hsiao	1945
<i>runatus</i> (Jordan & Rothschild)	---; ---; 194, 256, 353	Hsiao	1945
	---; ---; 209	Hsiao	1946
	---; ---; 210, 259	Wu	1940
<i>AMPHIPSYLLA</i> <i>anceps</i> Wagner	---; ---; 303	Wagner	1930..
<i>anceps</i> <i>coangusta</i> Ioff & Tiflow	---; ---; 256	da Costa Lima & Hathaway	1946
<i>asiatica</i> Ioff	---; ---; 76	Wu	1940
	---; ---; 162	Ioff	1928
<i>aspalacis</i> Jordan	---; ---; 194, 256	da Costa Lima & Hathaway	1946
<i>casis</i> Jordan & Rothschild	---; ---; 76, 143	da Costa Lima & Hathaway	1946
<i>contigua</i> Jordan & Rothschild	---; ---; 162	Ioff	1925
<i>contigua</i> <i>locuples</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMPHIPSYLLA</i>			
<i>daea</i> (Dampf)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Wu	1940
	---; ---; 345	Argyropulo	1937 +
<i>dumalis</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
<i>dumalis</i> <i>dumalis</i> Jordan & Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
<i>kalabukhovi</i> Ioff & Tiflow	---; ---; 31	da Costa Lima & Hathaway	1946
<i>kuznetzovi</i> Wagner	---; ---; 162, 256	Argyropulo	1937 +
	---; ---; 345	Wagner	1938
<i>kuznetzovi</i> <i>deminuta</i> Ioff & Tiflow	---; ---; 31	da Costa Lima & Hathaway	1946
<i>kurnetzovi</i> <i>glacialis</i> Argyropulo	---; ---; 35	Argyropulo	1937 +
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>mitis</i> Jordan	---; ---; 209	Liu	1936
	---; ---; 210	Wu	1940
	---; ---; 256, 353	Hsiao	1945
<i>petriskhevae</i> Darskaya	---; ---; 158, 168	Jameson	1953
<i>prima</i> Wagner	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256*	Pavlovskii	1931
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>primaria</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMPHIPSYLLA</i>			
<i>primaris</i>	---; ---; 256	Jordan	1929
<i>botis</i>			
Jordan			
<i>primaris</i>	---; ---; 256, 353	da Costa Lima & Hathaway	1946
<i>mitis</i>			
Jordan			
<i>primaris</i>	---; ---; 162	da Costa Lima & Hathaway	1946
<i>primaris</i>			
Jordan & Rothschild			
<i>rossica</i>	---; ---; 28	Ioff & Argyropulo	1934
Wagner			
	---; ---; 162°, 256°, 321°	Ioff	1928a
	---; ---; 256, 345	Wagner	1938
	---; ---; 294	Pavlovskii	1927
<i>rossica</i>	---; ---; 162	da Costa Lima & Hathaway	1946
<i>locuples</i>			
(Jordan & Rothschild)			
<i>rossica</i>	---; ---; 256, 345	da Costa Lima & Hathaway	1946
<i>rossica</i>			
Wagner			
<i>schelkownikovi</i>	---; in houses; 28. ---; ---; 162	Wagner & Argyropulo	1934
Wagner			
	---; naturally infected with <i>Hymenolepis</i> sp.; 35	Popov & Akhundov	1934
	---; ---; 256	Sasuchin & Tiflow	1936
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>transbaikalica</i>	---; ---; 256	Wagner	1930
Wagner			
<i>tkta</i>	---; ---; 76	Maiao	1945
Wagner			
<i>vinogradovi</i>	---; ---; 194, 256	Wu	1940
Ioff			

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARAEOPSYLLA</i>			
<i>gestroi</i> (Rothschild)	---; ---; 70	da Costa Lima & Hathaway	1946
<i>mera</i> Jordan & Rothschild	---; ---; 146	da Costa Lima & Hathaway	1946
<i>micula</i> Jordan & Rothschild	---; ---; 59	da Costa Lima & Hathaway	1946
<i>putilla</i> Jordan & Rothschild	---; ---; 143	da Costa Lima & Hathaway	1946
<i>signata</i> (Wahlgren)	---; ---; 146	da Costa Lima & Hathaway	1946
<i>ARCHAEOPSYLLA</i>			
<i>erinacei</i> (Bouché)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 150	Wagner	1916
	---; ---; 256, 345	Ioff	1928a
	---; ---; 294	Pavlovskii	1927
	---; ---; 342	Buxton	1924
<i>sinensis</i> Jordan & Rothschild	---; ---; 76, 256	da Costa Lima & Hathaway	1946
<i>ARCTOPSYLLA</i>			
<i>hyaenae</i> (Kolenati)	---; ---; 150, 345	da Costa Lima & Hathaway	1946
<i>BRACHYCTENONOTUS</i>			
<i>myospalacis</i> Wagner	---; ---; 162, 256	Wu	1940
<i>CALLOPSYLLA</i>			
<i>naspius</i> (Ioff & Argyropulo)	---; ---; 28, 162	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CALLOPSYLLA dolabris</i> (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>kozlovi</i> (Wagner)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>lagomys</i> (Wagner)	---; ---; 354	da Costa Lima & Hathaway	1946
<i>saxatilis</i> (Ioff & Argyropulo)	---; ---; 28	da Costa Lima & Hathaway	1946
<i>semenovi</i> Ioff	---; ---; 256	Wagner	1938
<i>tiflovi</i> Wagner	---; ---; 354	da Costa Lima & Hathaway	1946
<i>CATALLAGIA dacenkoi</i> Ioff	---; ---; 256	Ioff	1940
<i>CERATOPHYLLUS advenarius</i> Wagner	---; ---; 256	Wagner	1930
<i>agathus</i> Jordan & Rothschild	---; ---; 149	Jordan & Rothschild	192c
<i>alladinis</i> Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>andersoni</i> Rothschild	---; ---; 158	Jameson	1953
<i>anisus</i> Rothschild	---; all year, seems abundant in the spring and fall, possible vector of plague and murine typhus; 76	Ke et al.	1948
	---; carrier of typhus infection from rat to man, Feb.-Sept.; 76, 194°	Liu	1944
	---; naturally infected with typhus rickettsiae; 76°	Liu	1947
	---; ---; 158, 194	Wu	1940
	---; ---; 194**	Hoiao	1946
	---; ---; 256	Anonymous	1944a

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>arcotus</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>argutus</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>baikalensis</i> Ioff	---; ---; 256	Ioff	1928
<i>borealis</i> Rothschild	---; ---; 256	Wagner	1938
<i>borneensis</i> Jordan & Rothschild	---; ---; 145	Kopstein	1931
<i>calcalifer</i> Wagner	---; ---; 256	Ioff	1928
<i>calceatus</i> Rothschild	---; ---; 146, 149	da Costa Lima & Hathaway	1946
<i>caliotes</i> Jordan	---; ---; 235	da Costa Lima & Hathaway	1946
<i>caspius</i> Tiflow	---; ---; 28, 76, 162	Ioff & Argyropulo	1934
<i>clarus</i> Jordan & Rothschild	---; ---; 76	Jordan & Rothschild	1922
<i>columbae</i> (Walckenaer & Servais)	---; ---; 256	Wagner	1927
<i>consimilis</i> Wagner	---; ---; 345	Wagner	1916
	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 162	Tiflow & Usov	1939 +
	---; experimental transmission of plague; 256*	Golov & Ioff	1928
	---; ---; 321	Jordan & Rothschild	1921c
	---; naturally infected with plague; 345	Tiflow	1946
<i>cornuta</i> Jordan & Rothschild	---; Sept., at high altitudes; 145	Jordan & Rothschild	1926

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>crispus</i> Jordan & Rothschild	---; ---; 76	Chow & Huang	1950
<i>curvirostris</i> Miyajima & Koidzumi	---; ---; 168	Heiao	1948
<i>dacus</i> Jordan & Rothschild	---; ---; 345, 354	Wagner & Ioff	1926
<i>dolabris</i> (Jordan & Rothschild)	---; ---; 76	Heiao	1945
<i>elatus</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
	---; ---; 256	Wagner & Ioff	1926
<i>euteles</i> Jordan & Rothschild	---; March, at 10,000 feet elevation; 76	Jordan	1932
<i>farreni</i> Rothschild	---; ---; 158	Jameson	1953
	---; ---; 256	Wagner	1927
<i>fuscatus</i> Bosc d'Antic	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 35	Popov & Akhundov	1934
	---; March-June; 76	Raynal	1940
	---; ---; 77°	Omori	1935
	---; ---; 118	Stepanov	1931
	---; possible vector of plague, Sept.-Oct.; 143	Walker et al.	1931
	---; ---; 158, 256	Jordan & Rothschild	1921c
	---; ---; 162	Tiflow & Usov	1939 +
	---; enters houses; 256	Ioff	1928a
	---; ---; 294	Pavlovskii	1927

TABLE 1 -FLEAS (continued)

SPECIES	BREEDING HABITATS: ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>fasciatus</i>	---; ---; 321	Roshkovskaya	1937
<i>Bosc d'Antic</i>			
(cont.)	---; Oct.; 342	Buxton	1924
<i>fidus</i>	---; ---; 162	Jordan & Rothschild	1915
Jordan & Rothschild	---; ---; 256	Sassuchin et al.	1935
<i>fimbriatus</i>	---; ---; 143	Jordan & Rothschild	1921b
Jordan & Rothschild			
<i>fringillae</i>	---; ---; 256	Wagner	1927
Walker			
<i>gallinae</i>	---; ---; 31, 353	Wu	1940
(Schrank)	---; enters houses; 35	Argiropulo	1937 +
	---; ---; 76	Hsiao	1945
	---; ---; 256	Wagner	1927
	---; ---; 294	Pavlovskii	1927
<i>gallinae</i>	---; ---; 353	da Costa Lima & Hathaway	1946
<i>gallinae</i>			
(Schrank)			
<i>gallinae</i>	---; ---; 321	da Costa Lima & Hathaway	1946
<i>kievensis</i>			
Wagner			
<i>garei</i>	---; ---; 256	Wagner	1938
Rothschild			
	---; ---; 294	Jordan	1932c
<i>garei</i>	---; ---; 345	da Costa Lima & Hathaway	1946
<i>garei</i>			
Rothschild			
<i>garei</i>	---; ---; 256	Wagner	1938
<i>islandicus</i>			
Wagner			
<i>hastatus</i>	---; ---; 59	Jordan & Rothschild	1921b
Jordan &			
Rothschild			

TABLE 1 - PLEAS (Continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS hastatus</i> Jordan & Rothschild	---; ---; 59	Jordan & Rothschild	1922
<i>hastatus sikkimensis</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1922
<i>hirundinis</i> (Curtis)	---; ---; 256	Wagner	1927
<i>hirticus</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>hirundinus</i> (Curtis)	---; ---; 256	da Costa Lima & Hathaway	1946
	---; ---; 345	Argiropulo	1937 +
<i>idoneus</i> Rothschild	---; ---; 149	Jordan & Rothschild	1922c
<i>ilovaiskii</i> Wagner & Ioff	---; ---; 162	Kolpakova & Lippert	1938
	---; ---; 256	Ioff & Pokrowskaja	1934
<i>indoneus</i> Rothschild	---; ---; 149	Rothschild	1919
<i>iranus</i> Wagner & Argyropulo	---; ---; 28	Argiropulo & Yavrumov	1937 +
<i>kasnakovi</i> Wagner	---; ---; 76	Hsiao	1945
<i>klossi</i> Rothschild	---; ---; 149	Kopstein	1931
<i>kozlovi</i> Wagner	---; ---; 76	Hsiao	1945
<i>laeviceps</i> Wagner	---; ---; 162, 345, 354 ---; experimentally infected with and experimental transmission of plague; 256	Wu	1940
		Nikaporoff	1929
<i>laeviceps ellobii</i> Wagner	---; ---; 209 ---; ---; 353	Wu	1940
		Hsiao	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>laeviceps</i>	---; ---; 162, 256, 345, 354	Hsiao	1945
<i>laeviceps</i> Wagner			
<i>laeviceps</i> <i>mongolicus</i> Wagner	---; ---; 210	Wagner	1930
<i>laeviceps</i> <i>turkmenicus</i> Vlasov & Ioff	---; ---; 318	Ioff	1940
<i>lebedewi</i> Wagner	---; ---; 166	Wagner	1933
<i>levis</i> Jordan & Rothschild	---; ---; 190	Jordan & Rothschild	1922a
<i>londiniensis</i> Rothschild	---; ---; 342	Buxton	1924
	---; ---; 350	Jordan & Rothschild	1921c
<i>luculentus</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>lunatus</i> Jordan & Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>macrophthalmus</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
<i>maculatus</i> Wagner	---; ---; 256	Wagner	1927a
<i>mokrseckyi</i> Wagner	---; naturally infected with plague; 162° ---; enters houses; 166, 345	Tikhomirova et al.	1935
	---; experimentally infected with and experimental transmission of plague; 256	Nikanoroff	1929
	---; ---; 256°	Golov & Ioff	1928
	---; ---; 321	Roshkovskaya	1937

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>mongolicus</i> Jordan & Rothschild	---; ---; 256	Anonymous	1945
<i>monstrosus</i> Wagner	---; ---; 318	Wagner	1929
<i>mustelae</i> Schilling	---; ---; 256	Ioff & Tiflow	1932
<i>nicanus</i> Jordan	---; ---; 76	Wu	1940
<i>nilgiriensis</i> Jordan & Rothschild	---; in houses; 143°	Iyengar	1934
	---; ---; 143	Cragg	1921
<i>orites</i> Jordan	---; ---; 235	da Costa Lima & Hathaway	1946
<i>penicilliger</i> Grube	---; ---; 256	Jordan	1932c
<i>phaeopis</i> Jordan & Rothschild	---; ---; 76	Wu	1940
<i>pilatus</i> Jordan & Rothschild	---; ---; 144	Jordan & Rothschild	1922a
<i>praefectus</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
<i>probatus</i> Jordan & Rothschild	---; ---; 144	Jordan & Rothschild	1922a
<i>punensis</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>punjabensis</i> Jordan & Rothschild	---; ---; 143, 235	Jordan & Rothschild	1921c
<i>retangulatus</i> Wahlgren	---; ---; 256	Jordan	1932c

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>runatus</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>rusticus</i> Wagner	---; ---; 256	Wagner	1927
	---; ---; 345	Wagner	1938
<i>sarinus</i> Jordan & Rothschild	---; ---; 317	Jordan & Rothschild	1921b
	---; ---; 350	Jordan & Rothschild	1921c
<i>sauteri</i> (Rothschild)	---; ---; 76, 77	da Costa Lima & Hathaway	1946
<i>saxatilis</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>sciurorom</i> Schrank	---; ---; 28, 35	Ioff & Argyropulo	1934
	---; ---; 256	Wagner	1927
<i>sciurorom</i> <i>asiaticus</i> Ioff	---; ---; 162	Ioff	1940
<i>semenovi</i> Ioff	---; ---; 256	Ioff	1940
<i>silantiewi</i> Wagner	---; ---; 256*	Tiflow & Pavlov	1936 +
	---; ---; 256	Sukneff	1927
	---; ---; 353	Wu Lien Teh	1923
<i>simla</i> Jordan & Rothschild	---; possible vector of typhus, Feb.-March; 143	Mehta	1937
<i>simplex</i> Wagner	---; ---; 256	Wagner	1927
	---; ---; 321	Makarov	1928
<i>sincerus</i> Jordan & Rothschild	---; ---; 154	Jordan & Rothschild	1921b
	---; ---; 342	Jordan & Rothschild	1921c

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>sinensis</i> Liu	---; May-June, at altitudes of 1,000 feet; 76	Liu	1935
<i>sinicus</i> Jordan	---; May; 76	Jordan	1932
<i>sodalis</i> Rothschild	---; ---; 149	Kopstein	1931
<i>spadir</i> Jordan & Rothschild	---; ---; 59	Jordan & Rothschild	1921b
<i>sparsilis</i> Jordan & Rothschild	---; ---; 76	Wu	1940
<i>spinosus</i> Wagner	---; ---; 162, 345	da Costa Lima & Hathaway	1946
<i>stejnegeri</i> Jordan	---; ---; 47	da Costa Lima & Hathaway	1946
<i>styx</i> Rothschild	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256	Wagner	1927
<i>tamias</i> Wagner	---; ---; 256	Wagner	1927a
<i>tamilanus</i> Jordan & Rothschild	---; ---; 70	Jordan & Rothschild	1921c
<i>tereus</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
	---; ---; 256	Sassuchin et al.	1935
<i>tesquorum</i> Wagner	---; ---; 256	Sukneff	1927
<i>tesquorum</i> Wagner	---; ---; 162	Ioff	1929
	---; ---; 194	Wu	1940
	---; experimental transmission of plague; 256*	Golov & Ioff	1928
	---; naturally infected with plague; 256	Konovalova	1927
	---; all year; 256	Polyak & Tumanekii	1932

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>tesquorum</i>	---; ---; 294	Pavlovskii	1927
Wagner (cont.)	---; ---; 321°	Boikov	1929
	---; May-Jul.; 345°	Ioff & Pokyovskaya	1929
<i>tesquorum</i>	---; ---; 76	Wu	1940
<i>famulus</i>			
(Jordan & Rothschild)			
<i>tesquorum</i>	---; ---; 256	Ioff	1928
<i>jenissejensis</i>			
Wagner			
<i>tesquorum</i>	---; ---; 76, 256, 353	Heiao	1945
<i>mongolicus</i>			
Jordan & Rothschild			
<i>tesquorum</i>	---; ---; 76, 194	Wu	1940
<i>sungaricus</i>			
Jordan	---; ---; 256	Anonymous	1944a
<i>tesquorum</i>	---; ---; 256	Ioff	1928
<i>tesquorum</i>			
Wagner			
<i>toli</i>	---; ---; 256	Wagner	1927
Wagner			
<i>transbaikalicus</i>	---; ---; 256	Tiflow & Pavlov	1936 +
Tiflow & Pavlov			
<i>transcaucasicus</i>	---; ---; 28	Ioff & Argyropulo	1934
Ioff & Argyropulo			
<i>tribulii</i>	---; ---; 162	da Costa Lima & Matheway	1946
Jordan			
<i>trispinus</i>	---; ---; 162	Wagner & Ioff	1926
Wagner & Ioff			
	---; ---; 256	Sassuchin et al.	1935
<i>vagabunda</i>	---; ---; 31	Jordan & Rothschild	1920
(Boheman)			

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i> <i>vagabundus</i> <i>orientalis</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>vlasovi</i> Ioff	---; ---; 256	Sassuchin et al.	1935
	---; ---; 318	Ioff	1940
<i>volgensis</i> Wagner & Ioff	---; ---; 256	Wagner & Ioff	1926
<i>walkeri</i> Rothschild	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256	Tiflow	1930
<i>CHAETOPSYLLA</i> <i>appropinquans</i> Wagner	---; ---; 256	Ioff & Tiflow	1934
<i>globiceps</i> Taschenberg	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 158, 345	da Costa Lima & Hathaway	1946
	---; ---; 162. ---; in houses; 321	Ioff & Tiflow	1934
<i>hangchowensis</i> Liu	---; ---; 76	Heiao	1945
<i>homoeus</i> Rothschild	---; ---; 28, 59, 143, 162, 256	Ioff & Tiflow	1934
<i>homoeus</i> <i>carenis</i> (Jordan)	---; ---; 59	da Costa Lima & Hathaway	1946
<i>homoeus</i> <i>homoeus</i> Rothschild	---; ---; 28, 31, 143, 256	da Costa Lima & Hathaway	1946
<i>korobkovi</i> Tiflov & Kolpakova	---; ---; 162	Wagner	1938
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>lasius</i> Rothschild	---; ---; 31	Ioff & Tiflow	1934
<i>mikado</i> Rothschild	---; ---; 158	Ioff & Tiflow	1934

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHAETOPSYLLA</i> <i>mirabilis</i> (Ioff & Argyropulo)	---; ---; 28	Ioff & Argyropulo	1934
<i>trichosa</i> (Kohaut)	---; ---; 28, 162, 256	Ioff & Tiflow	1934
	---; ---; 345	Wagner	1935
<i>dolabris</i> (Jordan & Rothschild)	---; ---; 76	Liu	1936
<i>jenissejensis</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>CITELLOPHILUS</i> <i>simplex</i> (Wagner)	---; ---; 28	Wagner	1935
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tesquorum</i> (Wagner)	---; capable of transmitting plague; 256	Macchiavello	1954
<i>tesquorum</i> <i>altaicus</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>ciscaucasicus</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
	---; ---; 345	Wagner	1938
<i>tesquorum</i> <i>famulus</i> (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>mongolicus</i> (Jordan & Rothschild)	---; ---; 76, 358	Liu	1936
<i>tesquorum</i> <i>sugarai</i> (Jordan)	---; ---; 194	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>tesquorum</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>transvolgensis</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)		AUTHOR	DATE
<i>CITELLOPHILUS</i>				
<i>transcaucasius</i> (Ioff & Argyropulo)	---; ---; 28		da Costa Lima & Hathaway	1946
<i>trispinus</i> (Wagner & Ioff)	---; ---; 162, 326		da Costa Lima & Hathaway	1946
<i>COPTOPSYLLA</i>				
<i>ardua</i> Jordan & Rothschild	---; ---; 162		Jordan & Rothschild	1915
<i>bairamaliensis</i> Wagner	---; ---; 162		Wagner	1935
	---; ---; 318		Ioff & Tiflow	1934
	---; March; 354		Wagner	1929
<i>Lamellifer</i> Wagner	---; ---; 162, 166, 318, 326		Pavlovskii	1927
<i>Lamellifer</i> <i>ardua</i> Jordan & Rothschild	---; ---; 162		Ioff & Tiflow	1934
	---; ---; 256		Sassuchin et al.	1935
<i>Lamellifer</i> <i>fallax</i> Ioff & Tiflow	---; ---; 162		Ioff & Tiflow	1934
	---; ---; 256		Sassuchin et al.	1935
<i>Lamellifer</i> <i>immanubriata</i> Ioff & Tiflow	---; ---; 162, 293		Ioff & Tiflow	1934
	---; ---; 256		Sassuchin et al.	1935
	---; ---; 354		Wagner	1935
<i>Lamellifer</i> <i>Lamellifer</i> (Wagner)	---; ---; 256		Sassuchin et al.	1935
	---; Jan., March, Oct.-Dec.; 318		Ioff & Tiflow	1934
	---; ---; 354		da Costa Lima & Hathaway	1946
<i>Lamellifer</i> <i>rostrata</i> Ioff & Tiflow	---; ---; 162, 256, 293, 326		Ioff & Tiflow	1934
<i>CORRODOPSYLLA</i>				
<i>birulai</i> Ioff	---; ---; 256		Jordan	1932b

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CRATYNIUS</i> <i>bartelsi</i> Jordan	---; ---; 146	Jordan	1933
<i>CTENOCEPHALIDES</i> <i>arabicus</i> (Jordan)	---; ---; 25, 302	da Costa Lima & Hathaway	1946
<i>canis</i> (Curtis)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 31°, 76°	Wu	1940
	---; ---; 35	Popov & Akhundov	1934
	---; ---; 70, 76, 143, 145, 149, 256	da Costa Lima & Hathaway	1946
	---; rare, 77°	Chow & Huang	1950
	---; ---; 151	Jordan	1938
	---; ---; 158°	Jameson	1953
	---; ---; 162	Rodionova	1943
	---; possible vector of murine typhus and plague; 168°	Barnett & Toshioka	1951
	---; ---; 174, 302	Anonymous	1944c
	---; ---; 194	Anonymous	1946
	---; probable transmitter of plague; 317°	Anonymous	1944
	---; experimentally infected with tularemia; 317	Server Kamil & Sait Bilal	1938
	---; enters houses; 345	Argiropulo & Yavrumov	1937 +
<i>felis</i> (Bouché)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 35	Popov & Akhundov	1934
	---; ---; 76°	Hsiao	1945
	---; common; 77°	Chow & Huang	1950
	---; vector capacity for plague, most common Sept.-Oct.; 143	Walker et al.	1931

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALIDES</i>			
<i>felis</i> (Bouché) (cont.)	---; ---; 146	Thompson	1938a
	---; ---; 158	Jameson	1953
	---; ---; 194	Ono	1939
	---; ---; 242	Banks	1919
	---; ---; 280	Gilmour	1934
	---; ---; 317	Monziols & Collignon	1920
	---; ---; 345	Argiropulo & Yavrumov	1937
<i>felis</i> Bouché	---; ---; 59, 143, 162, 342	da Costa Lima & Hathaway	1946
	---; ---; 70	Thompson	1937
	---; common; 76	Chin & Li	1943
	---; ---; 146	Jordan	1933
	---; capable of transmitting plague; 256	Macchiavello	1954
<i>felis</i> <i>orientis</i> Jordan	---; ---; 59, 143, 149, 190	da Costa Lima & Hathaway	1946
	---; ---; 70	Thompson	1937
	---; ---; 143°	Iyengar	1934
	---; ---; 242	Traub	1951
<i>musculi</i> (Sugimoto)	---; ---; 77	Chow & Huang	1950
<i>paradoxuri</i> Wagner	---; ---; 70	Thompson	1937
<i>CTENOCEPHALUS</i>			
<i>canis</i> (Curtis)	---; ---; 76	Patton	1926
	---; ---; 77	Neumann	1913
	---; ---; 118	Stepanov	1931
	---; ---; 143, 235 (Occasionally attacks man)	Sharif	1930
	---; most active Oct.-Dec.; 144	Herivaux & Toumanoff	1948

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALUS</i> <i>canis</i> (Curtis)	---; jungle in high altitudes; 145	Jordan & Rothschild	1926
	, ---; ---; 146	Kopstein	1931
	---; ---; 149	Jordan & Rothschild	1922c
	---; ---; 151	Patton	1920
	---; July; 154°. ---; ---; 342°	Buxton	1924
	---; enters houses; 162°. ---; ---; 345°	Ioff	1928a
	---; ---; 242	Banks	1919
	---; ---; 256	Sassuchin & Tiflow	1933
	---; ---; 326	Khodukin	1928
<i>felis</i> Bouché	---; ---; 11, 59 (Occasionally attacks man)	Sharif	1930
	---; June-July; 76°	Rothschild	1914
	---; ---; 76	Patton	1926
	---; ---; 118	Stepanov	1931
	---; naturally infected with <i>Herpetomonas</i> sp.; 143	Patton	1914
	---; ---; 143°	Pavlovskii	1927
	---; most active Oct.-Dec.; 144	Herivaux & Toumanoff	1948
	---; ---; 145, 146	Kopstein	1931
	---; ---; 149	Jordan & Rothschild	1922b
	---; Jul.-Aug.; 154°. ---; Sept.; 342°	Buxton	1924
	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256	Sassuchin & Tiflow	1933
	---; July; 321°	Makarov	1928
	---; ---; 326	Khodukin	1928

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALUS</i>			
<i>felis</i> <i>orientis</i> Jordan	---; ---; 11, 59, 70, 143, 149, 190, 242 ---; in houses; 143°	Sharif Iyengar	1930 1934
<i>inoratus</i> Wagner	---; ---; 345	Wagner	1916
<i>musculi</i> Sugimoto	---; ---; 76	Raynal	1940
<i>CTENOPHTHALMUS</i>			
<i>acuminatus</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>agyrtes</i> Heller	---; ---; 168	Hsiao	1948
	---; ---; 256	Sassuchin & Tiflow	1936
<i>agyrtes</i> <i>eurous</i> Jordan & Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>arvalis</i> Wagner & Ioff	---; ---; 256	Wagner & Ioff	1926
<i>assimilis</i> Taschenberg	---; ---; 256	Ioff & Tiflow	1932
<i>bisooctodentatus</i> Kolenatti	---; ---; 256	Wagner	1927
<i>bogatschevi</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
<i>breviatus</i> Wagner & Ioff	---; ---; 162 ---; ---; 256	Ioff Sassuchin & Tiflow	1929 1933
<i>congener</i> Rothschild	---; ---; 158, 168 ---; ---; 256	Jameson Wagner	1953 1927
<i>congener</i> <i>secundus</i> Wagner	---; ---; 256	Jordan & Rothschild	1920
<i>congeneroides</i> Wagner	---; ---; 256	Anonymous	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>crudelis</i> Jordan	---; ---; 59	Jordan	1932a
<i>dahuricus</i> Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>dilatatus</i> Wagner	---; ---; 162	Wu	1940
<i>dinormus</i> Jordan	---; ---; 76	Wu	1940
<i>dolichus</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Ioff	1940
	---; ---; 354	Nikanorov & Knyazevskii	1927
<i>dolichus</i> <i>bair</i> Ioff	---; ---; 318	Ioff	1940
<i>dolichus</i> <i>dolichus</i> Rothschild	---; ---; 256	Ioff	1940
<i>dolichus</i> <i>idae</i> Ioff	---; ---; 326	Ioff	1940
<i>dolichus</i> <i>ustjurt</i> Ioff	---; ---; 256	Ioff	1940
<i>dur</i> (Jordan & Rothschild)	---; ---; 162	Jordan & Rothschild	1913
<i>fissura</i> (Wagner)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 118	Wagner	1929
	---; ---; 345	Wagner	1933
<i>formosanus</i> Svhla	---; ---; 77	da Costa Lima & Hathaway	1946
<i>gigantospalacis</i> Ioff	---; ---; 256	Ioff	1935
<i>golovi</i> Ioff & Tiflow	---; mountain 1,600 meters above sea level; 28. ---; mountain 2,000 meters above sea level; 35. ---; ---; 256	Argyropulo	1936

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>golovi</i>	---; ---; 35	Argyropulo	1937 +
<i>alpestris</i>			
Argyropulo	---; ---; 345	da Costa Lima & Hathaway	1946
<i>golovi</i>	---; ---; 345	Ioff	1940
<i>bifurcatus</i>			
Ioff			
<i>golovi</i>	---; ---; 28, 345	da Costa Lima & Hathaway	1946
<i>elegans</i>			
Argyropulo			
<i>golovi</i>	---; ---; 256	da Costa Lima & Hathaway	1946
<i>golovi</i>			
Ioff			
<i>idae</i>	---; ---; 256	Sassuchin et al.	1935
Ioff			
<i>intermedius</i>	---; ---; 345	Argyropulo	1936
Argyropulo			
<i>iranus</i>	---; ---; 345	Wagner	1938
Argyropulo			
<i>isochaetus</i>	---; ---; 345	da Costa Lima & Hathaway	1946
Wagner			
<i>kirechenblatti</i>	---; at altitudes of 1,700 meters; 118	Argyropulo	1936
Argyropulo			
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>orientalis</i>	---; ---; 256	Sassuchin & Tiflow	1933
Wagner			
	---; ---; 321	Wagner & Ioff	1926
<i>parvus</i>	---; ---; 76	Wu	1940
Jordan			
<i>parvus</i>	---; ---; 256, 345	Wagner	1938
Argyropulo			
<i>phrator</i>	---; ---; 345	Jordan	1929
Jordan			
<i>pistonicus</i>	---; ---; 256	Jordan & Rothschild	1921
Jordan & Rothschild			

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>pollex</i> Wagner & Ioff	---; ---; 162 ---; experimental transmission of plague; 256 ---; naturally infected with plague; 256	Ioff Nikanoroff Tumanskii & Polyak	1928a 1929 1932
<i>proximus</i> (Wagner)	---; ---; 35, 256 ---; ---; 345	Wagner & Argyropulo da Costa Lima & Hathaway	1934 1946
<i>rettigi</i> Rothschild	---; ---; 256	Argyropulo	1936
<i>secundus</i> Wagner	---; ---; 35, 256 ---; ---; 345	Wagner & Argyropulo Wagner	1934 1935
<i>secundus</i> <i>asiaticus</i> Argyropulo	---; ---; 345	Argyropulo	1936
<i>secundus</i> <i>secundus</i> (Wagner)	---; ---; 256, 345	da Costa Lima & Hathaway	1946
<i>solutus</i> Jordan & Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>spalacis</i> Jordan & Rothschild	---; ---; 28 ---; ---; 256* ---; ---; 256 ---; ---; 294 ---; ---; 345*	Ioff & Argyropulo Pavlovskii Ioff Pavlovskii Ioff	1934 1931 + 1928 1927 1928a
<i>tatianae</i> Argyropulo	---; at altitudes of 1,7000 meters above sea level; 118	Argyropulo	1936
<i>teres</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i> <i>typhlus</i> Motschulsky	---; ---; 256	Wagner	1938
<i>uralospalacis</i> Tiflo & Usov	---; ---; 162	da Costa Lima & Hathaway	1946
<i>wagneri</i> Tiflo	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256°	Pavlovskii	1931 +
	---; ---; 256	Tiflow	1930
	---; naturally infected with plague; 345	Tiflow	1946
<i>wagneri</i> <i>schuricus</i> Ioff	---; ---; 256, 321, 345	Ioff	1940
<i>yunnanus</i> Jordan	---; ---; 76	Wu	1940
<i>CTENOPHYLLUS</i> <i>armatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hirtiorus</i> (Jordan & Rothschild)	---; ---; 194, 256	da Costa Lima & Hathaway	1946
<i>rigidus</i> Darskaya	---; ---; 158, 168	Jameson	1953
<i>subarmatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>CTENOPSYLLA</i> <i>taeschenbergi</i> Wagner	---; ---; 28	Ioff & Argyropulo	1934
<i>occidentata</i> Wagner	---; ---; 162	Wagner	1930
<i>maculi</i> Dugas	---; ---; 76	Hertig & Huene	1929
	---; enters houses; 162	Ioff	1928a
	---; ---; 294	Pavlovskii	1927

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPSYLLUS</i>			
<i>algiru</i> Jordan & Rothschild	---; ---; 345	Argyropulo	1936
<i>algira</i> <i>popovi</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
<i>bidentatus</i> Kolenatti	---; ---; 256	Sassuchin & Tiflow	1936
<i>monoetena</i> Kolenatti	---; ---; 256	Wagner	1927
<i>musculi</i> Duges	---; enters houses; 256	Ioff	1928a
<i>segnis</i> (Schönherr)	---; ---; 31, 76, 139	Wu	1940
	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256°	Anonymous	1943
<i>sexdentata</i> Wagner	---; ---; 162	Wagner	1930
	---; ---; 256	Sassuchin & Tiflow	1936
<i>sicistae</i> Tiflow & Kolpakova	---; ---; 162	Wagner	1938
<i>subarmatus</i> Wagner	---; ---; 31	Wu	1940
<i>taschenbergi</i> Wagner	---; ---; 28, 35, 256	Wagner & Argyropulo	1934
	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 345	Wagner	1935
<i>CTENOPHTHALMUS</i>			
<i>dinomitus</i> Jordan	---; ---; 76	Maio	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHALMUS</i>			
<i>formosanus</i> Svhla	---; ---; 77	da Costa Lima & Hathaway	1946
<i>parous</i> Jordan	---; ---; 76	Haiao	1945
<i>yunnanensis</i> Jordan	---; ---; 76	Haiao	1945
<i>CYSTIPSILLA</i>			
<i>kiriteschenkoi</i> Wagner	---; ---; 210	Wagner	1930
<i>DASYPSYLLUS</i>			
<i>gallinulæ</i> (Dale)	---; ---; 242	Traub	1951
<i>klossi</i> (Rothschild)	---; ---; 149	da Costa Lima & Hathaway	1946
<i>DERMATOPHILUS</i>			
<i>oasacta</i> (Enderlein)	---; ---; 76	Roubaud	1925
<i>oascigena</i> (Jordan & Rothschild)	---; ---; 76	Wu	1940
<i>Lagrangei</i> Roubaud	---; ---; 76	Wu	1940
<i>penetrans</i> (Linna)	---; ---; 76	Roubaud	1925
<i>DIAMANUS</i>			
<i>mandarinus</i> (Jordan & Rothschild)	---; ---; 76	Haiao	1945
<i>montanus</i> Baker	---; ---; 76	Wu	1940
<i>montanus</i> <i>montanus</i> (Baker)	---; ---; 76	Haiao	1945
<i>DORATOPSYLLA</i>			
<i>birulai</i> Ioff	---; ---; 256	Ioff	1928
<i>coreana</i> Darskaya	---; ---; 158, 168	Jameson	1953

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DORATOPSYLLA</i> <i>dampfi</i> Argyropulo	---; ---; 345	da Costa Lima & Hathaway	1946
<i>dasyconemus</i> Rothschild	---; ---; 294	Pavlovskii	1927
<i>ochotonaee</i> Kishida	---; ---; 158	Jameson	1953
<i>ECHIDNOPHAGA</i> <i>gallinacea</i> (Westwood)	---; ---; 28, 59, 70, 143, 162, 317, 354 ---; ---; 31, 76 ---; ---; 35, 345 ---; ---; 59° ---; enters houses; 143° ---; ---; 158° ---; ---; 158 ---; ---; 162, 256, 345 (Sometimes attacks man) ---; ---; 174, 302 ---; ---; 256 ---; ---; 318 ---; ---; 326	Sharif Wu Ioff Kelsall Iyengar Jameson Ohtomo et al. Pavlovskii Anonymous Sassuchin et al. Vlasov & Ioff Khodukin	1930 1940 1928 1927 1934 1953 1937 1927 1944c 1930 1937 1928
<i>gallinacea</i> <i>gallinacea</i> (Westwood)	---; ---; 28, 76, 143	da Costa Lima & Hathaway	1946
<i>liopus</i> Jordan & Rothschild	---; ---; 143	Sharif	1930
<i>osohamini</i> Wagner	---; ---; 162, 354 ---; ---; 256	da Costa Lima & Hathaway Sassuchin et al.	1946 1935

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS, ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ECHIDNOPHAGA</i>			
<i>popovi</i> (Ioff & Argyropulo)	---; ---; 28	Ioff & Argyropulo	1934
<i>EUCTENOPHTHALMUS</i>			
<i>arvalis</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>assimilis</i> (Taschenberg)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>bogatschevi</i> (Wagner & Argyropulo)	---; ---; 35	da Costa Lima & Hathaway	1946
<i>breviatus</i> (Wagner & Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>congener</i> Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>congeneroides</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>intermedius</i> (Argyropulo)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>iranus</i> (Argyropulo)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>orientalis</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>parvus</i> (Argyropulo)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>pollex</i> (Wagner & Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tatianae</i> (Argyropulo)	---; ---; 256, 345	da Costa Lima & Hathaway	1946
<i>teres</i> (Ioff & Argyropulo)	---; ---; 28, 256	da Costa Lima & Hathaway	1946
<i>uncinatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>wagneri</i> (Tiflow)	---; ---; 256	da Costa Lima & Hathaway	1946

TABLE 1 - PLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>FRONTOPSYLLA</i>			
<i>elata</i>	---; ---; 28	Liu	1936
(Jordan & Rothschild)	---; ---; 162, 166, 256, 318, 326	Pavlovskii	1927
<i>elata</i>	---; ---; 194	Wu	1940
<i>botis</i>			
Jordan			
<i>elata</i>	---; ---; 28	Ioff & Argyropulo	1934
<i>caucasica</i>			
loff & Argyropulo			
<i>elata</i>	---; ---; 162	da Costa Lima & Hathaway	1946
<i>elata</i>	---; ---; 162	Wagner	1935
(Jordan & Rothschild)			
<i>elata</i>	---; ---; 28	da Costa Lima & Hathaway	1946
<i>humida</i>	---; ---; 162		
loff & Argyropulo			
<i>elatoides</i>	---; ---; 162	da Costa Lima & Hathaway	1946
Wagner			
<i>frontalis</i>	---; ---; 345	da Costa Lima & Hathaway	1946
<i>gud</i>			
Argyropulo			
<i>hotera</i>	---; ---; 353	Hsiao	1945
Wagner			
<i>luculenta</i>	---; ---; 194	Liu	1936
(Jordan & Rothschild)	---; ---; 256	Wu	1940
<i>luculenta</i>	---; ---; 76, 194, 256	da Costa Lima & Hathaway	1946
<i>luculenta</i>			
(Jordan & Rothschild)			
<i>luculenta</i>	---; ---; 209	Liu	1936
<i>parilis</i>	---; ---; 210	Wu	1940
Jordan			
	---; ---; 353	Hsiao	1945
<i>macrophthalmus</i>	---; ---; 31, 35, 162, 256. ---; on steppes; 345	Wagner & Argyropulo	1934
(Jordan & Rothschild)	---; ---; 318	Vlasov & Ioff	1937

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>FRONTOPSYLLA</i>			
<i>ornata</i>	---; ---; 162	da Costa Lima & Hathaway	1946
<i>Tiflow</i>			
<i>protera</i>	---; ---; 166	Wagner	1933
<i>Wagner</i>	---; ---; 294	da Costa Lima & Hathaway	1946
<i>semura</i>			
<i>Wagner & Ioff</i>	---; Jan.-March, Oct.-Dec.; 162. ---; Jan.-March; 256	Ioff	1928a
	---; experimentally infected with plague; 256	Tumanskii & Polyak	1932
	---; ---; 294	Pavlovskii	1927
	---; ---; 321	Makarov	1928
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>spadix</i>	---; ---; 59	Wu	1940
<i>(Jordan & Rothschild)</i>	---; ---; 76	Liu	1936
<i>spadix</i>	---; ---; 76	Wu	1940
<i>cansea</i>			
<i>Jordan</i>			
<i>spadix</i>	---; ---; 59, 76	Hsiao	1945
<i>spadix</i>			
<i>(Jordan & Rothschild)</i>			
<i>subula</i>	---; ---; 256, 353	da Costa Lima & Hathaway	1946
<i>Wagner</i>			
<i>wagneri</i>	---; ---; 209	Liu	1936
<i>Ioff</i>			
	---; ---; 210, 256	Wu	1940
	---; ---; 353	Hsiao	1945
<i>GERBILLOPHILUS</i>			
<i>argutus</i>	---; ---; 143	da Costa Lima & Hathaway	1946
<i>(Jordan & Rothschild)</i>			
<i>consimilis</i>	---; ---; 28, 345	Wagner	1935
<i>Wagner</i>			

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GERBILLOPHILUS</i> <i>iranus</i> (Wagner & Argyropulo)	---; ---; 35	da Costa Lima & Hathaway	1946
<i>laeviceps</i> Wagner	---; ---; 28, 345	Wagner	1935
<i>laeviceps</i> <i>ellobi</i> Wagner	---; ---; 76, 353	da Costa Lima & Hathaway	1946
<i>laeviceps</i> <i>laeviceps</i> (Wagner)	---; ---; 76, 162, 345	da Costa Lima & Hathaway	1946
<i>tersus</i> (Jordan & Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
<i>CEUSIBIA</i> <i>torosa</i> Jordan	---; ---; 76	Heiao	1945
<i>HECTOPSYLLA</i> <i>psittaci</i> Frauenfeld	---; ---; 70	da Costa Lima & Hathaway	1946
<i>HOPLOPSYLLUS</i> <i>glacialis</i> <i>profugus</i> Jordan	---; ---; 162	da Costa Lima & Hathaway	1946
<i>HYSTRICHOPSYLLA</i> <i>satunini</i> Wagner	---; 1,700 meters above sea level; 118 ---; ---; 345	Argyropulo	1936
<i>talpae</i> (Curtis)	---; ---; 162 ---; ---; 256	da Costa Lima & Hathaway	1946
<i>tripectinata</i> (Tiraboschi)	---; ---; 168	Tiflow & Usov	1939 +
		Ioff & Tiflow	1932
		Heiao	1948
<i>ISCHNOPSYLLUS</i> <i>comoris</i> Jordan & Rothschild	---; ---; 76 ---; ---; 77	Wu	1940
		Chow & Huang	1950

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ISCHNOPSYLLUS</i>			
<i>dolosus</i> Dampf	---; ---; 28, 256	da Costa Lima & Hathaway	1946
<i>elongata</i> (Curtis)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hexactenus</i> Kolenati	---; ---; 162	Tiflow & Usov	1939 +
<i>hexactenus</i> <i>hexactenus</i> (Kolenati)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hexactenus</i> <i>petropolitanus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>iae</i> Jordan	---; ---; 76	da Costa Lima & Hathaway	1946
<i>indicus</i> Jordan	---; ---; 70, 76, 143	da Costa Lima & Hathaway	1946
<i>intermedia</i> Rothschild	---; ---; 256	Ioff & Tiflow	1932
<i>kolenatii</i> Wagner	---; ---; 256	Wagner	1930
<i>needhamia</i> Hall	---; ---; 76	Hsiao	1945
	---; ---; 158	Jameson	1953
<i>obscura</i> Wagner	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>octactenus</i> (Kolenati)	---; ---; 28, 101, 256	da Costa Lima & Hathaway	1946
	---; ---; 35	Wagner & Argyropulo	1934
<i>taeteishii</i> Sugimoto	---; ---; 76, 77	Wu	1940
<i>teres</i> Jordan	---; ---; 343	Jordan	1929
<i>variabilis</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>wui</i> Hall	---; ---; 76	Wu	1940

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LAGAROPSYLLA</i>			
<i>mera</i> Jordan & Rothschild	---; ---; 146	Jordan & Rothschild	1921a
<i>micula</i> Jordan & Rothschild	---; ---; 59	da Costa Lima & Hathaway	1946
<i>putilla</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921a
<i>LEPTOPSYLLA</i>			
<i>aegnis</i> (Schönherr)	---; ---; 158, 168	Jameson	1953
<i>algira</i> <i>popovi</i> Wagner & Argyropulo	---; ---; 345	da Costa Lima & Hathaway	1946
<i>himalaica</i> Rothschild	---; ---; 143	Iyenger	1934
<i>musculi</i> Duges	---; ---; 59, 143 ---; in houses, possible vector of endemic typhus; 76 ---; bites occasionally; 76° ---; all year; 76 ---; Feb., Oct.-Nov.; 118 ---; ---; 149 ---; Oct.; 154, 342 ---; May, Oct.; 168 ---; ---; 236 ---; ---; 294	Clegg Liu & Zia Liu & Zia Yang et al Stepanov Kopstein Buxton Haiso Pokrovskii Pokrovskii	1921 1940 1941 1939 1931 1931 1924 1948 1933 1927
<i>pavlovskii</i> Ioff	---; ---; 236	Ioff	1928
<i>peotiniceps</i> (Wagner)	---; ---; 236	Pavlovskii	1927

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LEPTOPSYLLA</i>			
<i>segnis</i> (Schönherr)	---; ---; 35	Popov & Akhundov	1934
	---; ---; 70	Thompson	1938
	---; naturally infected with typhus; 76	Liu & Zia	1941
	---; ---; 77	Chow & Huang	1950
	---; ---; 133	Landauer	1938
	---; ---; 139	Hsiao	1945
	---; ---; 143*	George & Timothy	1941
	---; ---; 144	Sorel	1937
	---; ---; 158	Ohtoma et al.	1937
	---; possible vector of murine typhus; 168*	Barnett & Toshioka	1951
	---; ---; 321	Roshkovskaya	1937
	---; ---; 342	Anonymous	1934
<i>sexdentata</i> Wagner	---; ---; 162	da Costa Lima & Hathaway	1946
<i>sicistas</i> Tiflow & Kolpakova	---; ---; 256	da Costa Lima & Hathaway	1946
<i>taschenbergi</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>LOEMOPSYLLA</i>			
<i>cheopis</i> (Rothschild)	---; ---; 144	Kerandel	1915
	---; ---; 242*	Banks	1919
<i>MACROSTYLOPHORA</i>			
<i>bornaeensis</i> (Jordan)	---; ---; 145	da Costa Lima & Hathaway	1946
<i>cutea</i> ** (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>fimbriata</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
MACROSTYLOPHORA			
<i>hastata</i>	---; ---; 59	da Costa Lima & Hathaway	1946
<i>hastata</i> (Jordan & Rothschild)			
<i>hastata</i>	---; ---; 143	da Costa Lima & Hathaway	1946
<i>sikkimensis</i> (Jordan & Rothschild)			
<i>hastata</i> <i>tonkinensis</i> Jordan	---; ---; 144	da Costa Lima & Hathaway	1946
<i>heinrichi</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
<i>levisi</i> (Jordan & Rothschild)	---; ---; 190	da Costa Lima & Hathaway	1946
<i>lupata</i> <i>banana</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
<i>lupata</i> <i>lupata</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>phillipsi</i> (Jordan)	---; ---; 70	da Costa Lima & Hathaway	1946
<i>pilata</i> (Jordan & Rothschild)	---; ---; 190	da Costa Lima & Hathaway	1946
<i>probata</i> (Jordan & Rothschild)	---; ---; 190	da Costa Lima & Hathaway	1946
<i>uncinata</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
NALARAEUS			
<i>toffi</i> (Darekaya)	---; ---; 168	Jenaecon	1953
<i>penicilliger</i> (Grube)	---; ---; 158	Jenaecon	1953
MEGADOTHRISS			
<i>caspiae</i> Tiflow	---; ---; 28, 162	Wagner	1935

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MEGABOTERIS</i> <i>mustelae</i> Schill.	---; 1,700 meters above sea level; 118	Argyropulo	1936
<i>saxatilis</i> Ioff & Argyropulo	---; ---; 28	Wagner	1935
<i>NESOPSYLLA</i> <i>apecheronica</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 245	da Costa Lima & Hathaway	1946
<i>euxota</i> Dampf	---; ---; 162	Ioff	1929
	---; ---; 166, 294, 318, 326	Pavlovskii	1927
<i>euxota</i> <i>dampfi</i> Wagner & Ioff	---; experimental transmission of plague; 256	Nikanoroff	1929
<i>hebes</i> Jordan & Rothschild	---; ---; 162, 256	Ioff	1929
	---; ---; 256*	Kuzenkov	1929
<i>hebes</i> <i>dampfi</i> Wagner & Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hebes</i> <i>hebes</i> Jordan & Rothschild	---; ---; 162, 256	da Costa Lima & Hathaway	1946
<i>hebes</i> <i>septentrionalis</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>lensis</i> Jordan & Rothschild	---; ---; 35	Popov & Akhundov	1934
	---; ---; 162, 256	Ioff	1929
	* ---; ---; 256*	Pavlovskii	1931 +

TABLE 1 - PLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MESOPSYLLA</i>			
<i>tuschkan</i> Wagner & Ioff	---; ---; 162, 256 ---; ---; 166, 294, 318, 326 ---; ---; 345	Ioff Pavlovskii Wagner	1929 1927 1938
<i>MICROPSYLOIDES</i>			
<i>jaonie</i> (Jordan)	---; ---; 194	da Costa Lima & Hathaway	1946
<i>MIOTENOPSYLLA</i>			
<i>arctica</i> Rothschild	---; ---; 256	Jordan	1932c
<i>NONOPSYLLUS</i>			
<i>anadyrus</i> Jordan	---; ---; 256	Jordan	1937
<i>anisus</i> (Rothschild)	---; Dec.-July, Sept.-Nov.; 76 ---; rare; 77 ---; capable of transmitting plague; 158 ---; capable of transmitting plague; 168° ---; ---; 194	Yang et al. Chow & Huang Macchavello Barnett & Tochicks	1939 1950 1954 1951
<i>argus</i> (Rothschild)	---; ---; 158	Jameson	1953
<i>indicus</i> (Rothschild)	---; ---; 158	Jameson	1953
<i>sciurorum</i> (Schrank)	---; ---; 28, 35	Wagner & Argyropulo	1934
<i>sciurorum</i> <i>asiaticus</i> Ioff	---; ---; 31 ---; ---; 326	da Costa Lima & Hathaway Wagner	1946 1938
<i>sciurorum</i> <i>dryas</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>sciurorum</i> <i>sciurorum</i> (Schrank)	---; ---; 162, 236, 345	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MONOPSYLLUS</i> <i>tomas</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>NYDOPSYLLA</i> <i>trisellis</i> Jordan	---; ---; 194	Heiao	1945
<i>NYOXOPSYLLA</i> <i>jordani</i> Ioff & Argyropulo	---; ---; 28, 256	Ioff & Argyropulo	1934
<i>NEOCERATOPHYLLUS</i> <i>trispinosus</i> Liu	---; ---; 76	Heiao	1945
<i>NEOCTENOPHTHEALNUS</i> <i>dilatatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>NEOPSYLLA</i> <i>acanthina</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>aliena</i> Jordan & Rothschild	---; ---; 76	Heiao	1945
<i>anoma</i> Rothschild	---; ---; 76	Heiao	1945
<i>avida</i> Jordan	---; ---; 144	da Costa Lima & Hathaway	1946
<i>bidentatiformis</i> (Wagner)	---; ---; 168	Barnett & Toshioka	1951
	---; ---; 194, 256, 353	Wu	1940
<i>compar</i> Jordan & Rothschild	---; ---; 76	Heiao	1945
<i>democratica</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>dispar</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NEOPSYLLA</i>			
<i>honora</i> Jordan	---; ---; 76	Heiao	1945
<i>kopsteini</i> Jordan	---; ---; 146	Jordan	1933
<i>mana</i> Wagner	---; ---; 256	Wagner	1927a
<i>meridiana</i> Tiflow & Kolpakova	---; ---; 166	da Costa Lima & Hathaway	1946
<i>pleskei</i> Ioff	---; ---; 256	Ioff & Argyropulo	1934
<i>pleskei</i> <i>armeniaea</i> Ioff & Argyropulo	---; ---; 28, 35	da Costa Lima & Hathaway	1946
<i>pleskei</i> <i>orientalis</i> Ioff & Argyropulo	---; ---; 256	da Costa Lima & Hathaway	1946
<i>pleskei</i> <i>pleskei</i> Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>pleskei</i> <i>rozsica</i> Ioff & Argyropulo	---; ---; 256	da Costa Lima & Hathaway	1946
<i>secunda</i> Rothschild	---; ---; 143	da Costa Lima & Hathaway	1946
<i>setosa</i> Wagner	---; naturally infected with plague; 162° ---; experimental transmission of bubonic plague; 256 ---; naturally infected with plague; 25f ---; ---; 294 ---; ---; 321° ---; ---; 345	Tikhomirova et al. Aristarkhova Konovalova Pavloveskii Boikiv Ioff & Pokrovskaya	1935 1930 1927 1927 1929 1929

TABLE 1 - PLAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NEOPSYLLA</i>			
<i>setosa</i> <i>hajastanica</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>setosa</i> <i>setosa</i> (Wagner)	---; capable of transmitting plague; 256	Macchiavello	1954
<i>sondaica</i> Jordan	---; ---; 146	da Costa Lima & Hathaway	1946
<i>specialis</i> Jordan	---; ---; 76	Hsiao	1945
<i>stevensi</i> Rothschild	---; ---; 76, 143	Hsiao	1945
<i>teratura</i> Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin & Tiflow	1936
<i>tricata</i> Jordan	---; ---; 144	da Costa Lima & Hathaway	1946
<i>uniseriata</i> Wagner	---; ---; 256	Wagner	1927a
<i>NESOLAGOBius</i>			
<i>callosus</i> Jordan & Rothschild	---; ---; 149	da Costa Lima & Hathaway	1946
<i>NOSOPSYLLUS</i>			
<i>alladinis</i> (Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>arcotus</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>consimilis</i> (Wagner)	---; ---; 28. ---; Jan.-Feb.; 35. ---; ---; 162,321	Wagner & Argyropulo	1934
	---; capable of transmitting plague; 256	Macchiavello	1954

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MOSOPSYLLUS</i>			
<i>fasciatus</i> Bosc d'Antic	---; near human dwellings; 35	Wagner & Argyropulo	1934
	---; ---; 76	Yu	1940
	---; in houses at high altitudes; 77	Chow & Huang	1950
	---; ---; 143	Roy & Brown	1954
	---; ---; 144	Sorel	1937
	---; ---; 158**, 168**	Jameson	1953
	---; possible vector of plague; 168°	Barnett & Toshicka	1951
	---; May; 168	Heiao	1948
	---; ---; 256	Anonymous	1945a
<i>fidus</i> (Jordan & Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
<i>henleyi</i> Rothschild	---; ---; 345	Argyropulo	1936
<i>iranus</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
<i>laeviceps</i> Wagner	---; ---; 35, 162	Wagner & Argyropulo	1934
	---; ---; 256, 345, 354	Liu	1936
<i>laeviceps</i> <i>ellobii</i> Wagner	---; ---; 353	Liu	1936
<i>medus</i> Jordan	---; ---; 151	da Costa Lima & Hathaway	1946
<i>mokrseckyi</i> (Wagner)	---; ---; 35, 256	Wagner & Argyropulo	1934
	---; capable of transmitting plague; 256	Macchiavello	1954
	---; ---; 345	da Costa Lima & Hathaway	1946

TABLE 1 - PLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NOSOPSYLLUS</i>			
<i>niacarus</i> Jordan	---; Dec.-May; 76	Yang et al.	1939
<i>nilgeriensis</i> (Jordan & Rothschild)	---; ---; 143	Roy & Brown	1954
<i>punensis</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>punjabensis</i> (Jordan & Rothschild)	---; ---; 143	Roy & Brown	1954
<i>sarivus</i> (Jordan & Rothschild)	---; ---; 350	da Costa Lima & Hathaway	1946
<i>simla</i> (Jordan & Rothschild)	---; ---; 143	Roy & Brown	1954
<i>sincerus</i> (Jordan & Rothschild)	---; ---; 342	da Costa Lima & Hathaway	1946
<i>tamilanus</i> (Jordan & Rothschild)	---; ---; 70, 143	Roy & Brown	1954
<i>wualis</i> Jordan	---; ---; 76	da Costa Lima & Hathaway	1946
<i>NYCTERIDOPSYLLA</i>			
<i>dictena</i> Kolenati	---; ---; 256	da Costa Lima & Hathaway	1946
<i>eusarca</i> Dampf	---; ---; 256	Wagner	1927
<i>galba</i> Dampf	---; ---; 76	Hsiao	1945
<i>longiceps</i> Rothschild	---; ---; 256	Wagner	1927
	---; ---; 350	da Costa Lima & Hathaway	1946
<i>pentactena</i> Kolenati	---; ---; 256	Wagner	1927

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OPHTHALMOPSYLLA</i>			
<i>arnoldi</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
<i>jettmari</i> Jordan	---; ---; 76	da Costa Lima & Hathaway	1946
	---; sand dunes; 194	Liu	1936
<i>kaeckensi</i> Ioff	---; ---; 162	Ioff	1929
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>kiritschenkoi</i> Wagner	---; ---; 210	Wu	1940
	---; ---; 353	Hsiao	1945
<i>kukuschkini</i> Ioff	---; ---; 76	da Costa Lima & Hathaway	1946
	---; sand dunes; 194. ---; ---; 256	Liu	1936
<i>praefecta</i> Jordan & Rothschild	---; ---; 162, 166, 256, 294, 318, 326	Pavlovskii	1927
<i>praefecta</i> <i>permix</i> Jordan	---; ---; 162, 256	Wu	1940
	---; ---; 209	Liu	1936
	---; ---; 353	Hsiao	1945
<i>praefecta</i> <i>praefecta</i> (Jordan & Rothschild)	---; ---; 162, 256	da Costa Lima & Hathaway	1946
<i>volgensis</i> Wagner & Ioff	---; ---; 35	Wagner	1935
	---; ---; 162, 166, 256, 294, 318, 326	Pavlovskii	1927
	---; ---; 256*	Pavlovskii	1931 +
	---; ---; 345	Ioff	1928a
	---; ---; 354	Nikanorov & Knyazevskii	1927
<i>OROPSYLLA</i>			
<i>elana</i> Jordan	---; ---; 194	Hsiao	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Oropsylla</i>			
<i>ilovaiskii</i> Wagner & Ioff	---; ---; 162, 256	Ioff	1928a
	---; ---; 256°	Pavlovskii	1931 +
	---; steppes; 294	Pavlovskii	1927
<i>mandarina</i> (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>montana</i> (Baker)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>segregata</i> (Wagner)	---; ---; 256	Wagner	1938
	---; ---; 303	da Costa Lima & Hathaway	1946
<i>silantiewi</i> Wagner	---; ---; 162, 194, 256, 354	Wagner	1936
	---; ---; 256°	Golov & Ioff	1928
	---; ---; 294	Pavlovskii	1927
	---; capable of transmitting plague; 353	Macchiavelli	1954
<i>silantiewi</i> <i>asiatica</i> Wagner	---; ---; 256	Wagner	1936
<i>silantiewi</i> <i>crassa</i> (Jordan & Rothschild)	---; ---; 76	Hsiao	1945
	---; ---; 194	da Costa Lima & Hathaway	1946
<i>silantiewi</i> <i>silantiewi</i> (Wagner)	---; ---; 31	Liu	1936
	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 194, 256, 353	Wu	1940
<i>silantiewi</i> <i>weissei</i> Wagner	---; ---; 353	Wagner	1936
<i>sinensis</i> Liu	---; ---; 76	Liu	1936
<i>stejnegeri</i> Jordan	---; --; 256	Jordan	1937

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PALABOPSYLLA</i> <i>gracilis</i> Dampf	---; ---; 294	Pavlovskii	1927
<i>incurva</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
<i>klebsiana</i> Dampf	---; ---; 294	Pavlovskii	1927
<i>laxata</i> Jordan	---; ---; 146	Jordan	1933
<i>minor</i> Dale	---; ---; 256	Wagner	1927
<i>remota</i> Jordan	---; ---; 76	Hsiao	1945
	---; ---; 143	Jordan	1932a
<i>similis</i> Dampf	---; ---; 256	da Costa Lima & Hathaway	1946
<i>soreocis</i> <i>starki</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>starki</i> Wagner	---; ---; 256	Ioff & Tiflow	1932
<i>PALAOCTENOPHTHALMUS</i>			
<i>acuminatus</i> (Ioff & Argyropulo)	---; ---; 28, 345	da Costa Lima & Hathaway	1946
<i>fissura</i> (Wagner)	---; ---; 28, 345	da Costa Lima & Hathaway	1946
<i>inornatus</i> (Wagner)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>PARACALLOPSYLLA</i> <i>kasnakovi</i> (Wagner)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>oreina</i> (Jordan)	---; ---; 143, 235	da Costa Lima & Hathaway	1946
<i>PARACERAS</i> <i>cripsus</i> (Jordan & Rothschild)	---; ---; 76, 256	da Costa Lima & Hathaway	1946
<i>flabellum</i> Wagner	---; ---; 162, 256	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PARACERAS</i>			
<i>hamatus</i> Jordan	---; ---; 59, 76	da Costa Lima & Hathaway	1946
<i>javanicus</i> (Ewing)	---; ---; 146	Jordan	1937
<i>melis</i> (Curtis)	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 158, 345	da Costa Lima & Hathaway	1946
<i>pendleburyi</i> Jordan	---; ---; 145	da Costa Lima & Hathaway	1946
<i>sauteri</i> (Rothschild)	---; ---; 77	Chow & Huang	1950
<i>segregatus</i> Wagner	---; ---; 303	Wagner	1930a
<i>sinensis</i> (Liu)	---; ---; 76	Hsiao	1945
<i>PARADOXOPSYLLUS</i>			
<i>conveniens</i> Wagner	---; ---; 210	Wagner	1930
	---; ---; 353	Hsiao	1945
<i>curvispinus</i> Miyajima & Koidzumi	---; ---; 76, 158, 162	Wu	1940
	---; ---; 168	Barnett & Toshioka	1951
<i>custodis</i> Jordan	---; ---; 76	Hsiao	1945
<i>naryni</i> Wagner	---; ---; 294	da Costa Lima & Hathaway	1946
<i>reparatus</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
<i>teretifrons</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935

TABLE 1 - PLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PARADOXOPSYLLA transbaikaliensis</i> Tiflow & Pavlov	---; ---; 256	da Costa Lima & Hathaway	1946
<i>PARANEOPSYLLA ioffi</i> Tiflow	---; ---; 162	da Costa Lima & Hathaway	1946
<i>PARIODONTIS riggenbachi</i> (Rothschild)	---; ---; 143	Sharif	1930
<i>subjugis</i> Jordan	---; ---; 190	da Costa Lima & Hathaway	1946
<i>wernecki</i> da Costa Lima	---; ---; 143	da Costa Lima & Hathaway	1946
<i>PECTINOCTENUS adalis</i> Jordan	---; ---; 76, 194	da Costa Lima & Hathaway	1946
<i>otenophorus</i> Wagner	---; ---; 162	Wagner	1929 +
	---; ---; 210	Wu	1940
	---; ---; 294	da Costa Lima & Hathaway	1946
<i>lautus</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin & Tiflow	1936
<i>macrourus</i> Tiflow	---; ---; 162	da Costa Lima & Hathaway	1946
<i>pavlovskii</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>pectinioeps</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>PECTINOTECTUS adalis</i> Jordan	---; ---; 194	Meiac	1945
<i>PULEX canis</i> (Curtis)	---; sometimes in swamps in sandy places; 144	Cadet	1917

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PULEX</i>			
<i>cheopis</i> (Rothschild)	---; May, in houses; 144*	Cadet	1917
	---; naturally infected with plague; 242	Heiser	1914
<i>globiceps</i> Taschenberg	---; ---; 256	Baker	1895
<i>hyaenae</i> Kolen	---; ---; 345	Jordan & Rothschild	1920
<i>irritans</i> Linnaeus	---; ---; 59, 235. ---; mostly in hilly regions, enters houses; 143	Sharif	1930
	---; plays a role in the transmission of typhus; 76	Liu	1944
	---; May-June; 76°	Rothschild	1914
	---; common in plains and mountains; 77°	Chow & Huang	1950
	---; ---; 77	Omori	1935
	---; ---; 133	Landauer	1938
	---; only in hills; 143	Patton	1922
	---; common; 143	King et al.	1931
	---; ---; 143°	Iyengar	1934
	---; on beach, attracted by light, not very common; 144	Cadet	1917
	---; seldom found on man; 146°. ---; ---; 150°	Kopstein	1931
	---; ---; 150, 345	Wagner	1916
	---; vicinity of huts and villages; 151°	Patton	1920
	---; July; 154°, 342°	Buxton	1924
	---; ---; 158°*, 168°*	Jameson	1953
	---; ---; 159	Jordan	1937
	---; naturally infected with plague; 162°	Tikhomirova	1934
	---; ---; 162	Kalina	1931
	---; in houses, 168	Barnett & Toshioka	1951

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS, ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PULEX</i>			
<i>irritans</i> Linnaeus	---; ---; 174, 302	Anonymous	1944c
(cont.)	---; ---; 194 ^o	Hsiao	1946
	---; ---; 194	Anonymous	1946
	---; ---; 242	Banks	1919
	---; experimentally infected with plague; 256	Golov & Ioff	1925
	---; ---; 256 ^o	Ioff	1925
	---; ---; 280	Gilmour	1934
	---; ---; 317	Monziols & Collignon	1920
	---; ---; 321 ^o	Makarov	1928
	---; ---; 326	Khodukin	1928
	---; ---; 342	Anonymous	1944b
<i>irritans</i> <i>fulvus</i> Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>jaculans</i> Motschulsky	---; ---; 256	da Costa Lima & Hathaway	1946
<i>orientalis</i> Kishida	---; ---; 76	Hsiao	1946
<i>PYGIOPSyllA</i>			
<i>chalas</i> Rothschild	---; experimental infection and transmitt. of pest; 146	Schwellengrbel & Otten	1914
<i>celebensis</i> Ewing	---; ---; 145	da Costa Lima & Hathaway	1946
<i>jacobsoni</i> Jordan & Rothschild	---; ---; 149	Jordan & Rothschild	1922c
<i>kloessi</i> Jordan & Rothschild	---; ---; 144	Jordan & Rothschild	1922a
<i>robinsoni</i> Rothschild	---; ---; 14)	Jordan & Rothschild	1922c

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PYGIOPSYLLA</i>			
<i>sciuri</i> Ewing	----; ---; 145	da Costa Lima & Hathaway	1946
<i>synetus</i> Jordan & Rothschild	----; ---; 149	Jordan & Rothschild	1922c
<i>RECTOPPONTIA</i>			
<i>accola</i> (Wagner)	----; ---; 76	Wu	1940
<i>altaica</i> (Wagner)	----; ---; 31	Wu	1940
	----; ---; 256	da Costa Lima & Hathaway	1946
<i>angusta</i> (Tiflow)	----; ---; 162	da Costa Lima & Hathaway	1946
<i>casta</i> (Jordan)	----; ---; 35	Wagner & Argyropulo	1934
	----; ---; 345	da Costa Lima & Hathaway	1946
<i>dahurica</i> (Jordan & Rothschild)	----; ---; 194, 256	Haiao	1945
<i>dives</i> (Jordan)	----; ---; 194	Wu	1940
<i>insolita</i> (Jordan)	----; ---; 194	Haiao	1945
<i>jaonis</i> (Jordan)	----; ---; 76, 194	Wu	1940
<i>rothschildi</i> (Tiflow & Pavlov)	----; ---; 256	da Costa Lima & Hathaway	1946
<i>tenella</i> (Jordan)	----; ---; 194	Haiao	1945
<i>violina</i> (Wagner)	----; ---; 76	Wu	1940
<i>RHADINOPSYLLA</i>			
<i>accola</i> Wagner	----; ---; 76	Wagner	1930

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS: ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHADINOPSYLLA</i>			
<i>bivirgis</i> Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Pavlovskii	1927
<i>casta</i> Jordan	---; ---; 345	Argyropulo	1937
<i>cedestis</i> Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 318	Vlasov	1932
	---; ---; 354	Nikancrov & Knyazevskii	1927
<i>dahurica</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>dialinica</i> Tiflow	---; ---; 162	da Costa Lima & Hathaway	1946
<i>dives</i> (Jordan)	---; ---; 194	Jordan	1929a
<i>insolita</i> Jordan	---; ---; 168	Jameson	1953
	---; ---; 194	Jordan	1929a
<i>ioffi</i> Wagner	---; ---; 162	Wagner	1930
<i>jaonis</i> Jordan	---; ---; 194	Jordan	1919a
<i>rothschildi</i> Ioff	---; ---; 256	Ioff	1940
<i>sooria</i> Wagner	---; ---; 162	da Costa Lima & Hathaway	1946
<i>tenella</i> Jordan	---; ---; 194	Jordan	1929a
<i>ueronica</i> Wagner & Argyropulo	---; ---; 118	Argyropulo & Tsvetanov	1937 +

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHADINOPSYLLA ukrainica</i> Ioff	---; ---; 28, 35, 256, 321 ---; ---; 162	Ioff Wagner & Argyropulo	1910 1934
<i>valenti</i> Darskaya	---; ---; 168	Jameson	1953
<i>vicina</i> Wagner	---; ---; 76	Wagner	1930
<i>RHIONOLPHOPSYLLA unipectinata</i> (Taschenberg)	---; ---; 35	Wagner & Argyropulo	1934
<i>unipectinata indica</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921a
<i>ROSTROPSYLLA dacus</i> (Jordan & Rothschild)	---; ---; 162, 166, 318, 326 ---; ---; 345	Pavlovskii da Costa Lima & Hathaway	1927 1946
<i>SPALACOCETENOPHTHALMUS gigantospalacis</i> (Ioff)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>typhlus</i> (Motschulsky)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>STENISCHIA mirabilis</i> Jordan	---; ---; 76	Wu	1940
<i>STENOPONIA coelestis</i> Jordan & Rothschild	---; ---; 76	Wu	1940
<i>conspicua</i> Wagner	---; ---; 162 ---; ---; 256 ---; ---; 318	Wagner Sassuchin et al. Vlasov	1926 1935 1932

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STENOPONIA</i>			
<i>formosovi</i> Ioff & Tiflow	---; ---; 256	Ioff & Tiflow	1934
<i>insperata</i> Weiss	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 345	Argyropulo	1936
<i>ivanovi</i> Ioff & Tiflow	---; ---; 162, 256, 345	da Costa Lima & Hathaway	1946
<i>lasovi</i> Ioff & Tiflow	---; ---; 318	da Costa Lima & Hathaway	1946
<i>montana</i> Barakaya	---; ---; 168	Jameson	1953
<i>sidimi</i> Marikovskiy	---; ---; 158, 168	Jameson	1953
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>singularis</i> Ioff & Tiflow	---; ---; 256	Ioff & Tiflow	1934
<i>solitaria</i> Ioff & Tiflow	---; ---; 31	da Costa Lima & Hathaway	1946
	---; ---; 162	Wagner	1935
	---; ---; 256	Sassuchin et al.	1935
	---; March; 293	Ioff & Tiflow	1934
<i>suknevi</i> Ioff & Tiflow	---; ---; 31, 162	Ioff & Tiflow	1934
	---; ---; 256	da Costa Lima & Hathaway	1946
	---; ---; 318	Wagner	1935
<i>tripectinata</i> Tiraboschi	---; ---; 342, 350	Ioff & Tiflow	1934

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STENOPONIA</i>			
<i>vlaovi</i> Ioff & Tiflow	---; Feb.-March and Nov.; 318	Ioff & Tiflow	1934
<i>STIVALIUS</i>			
<i>chalas</i> (Rothschild)	---; enters houses; 143°	Iyengar	1934
	---; ---; 143	Jordan & Rothschild	1922b
<i>aporus</i> Jordan & Rothschild	---; ---; 70, 143	Jordan & Rothschild	1922b
<i>cognatus</i> Jordan & Rothschild	---; in mountainous country 800 meters and high r, indoors; 146	Kopalein	1931
<i>ferinus</i> (Rothschild)	---; ---; 70, 143	Jordan & Rothschild	1922b
<i>jacobsoni</i> (Jordan & Rothschild)	---; ---; 146, 149	Jordan	1933
<i>javanus</i> Jordan	---; ---; 146	Jordan	1933
<i>klossi</i> (Jordan & Rothschild)	---; ---; 144	Jordan & Rothschild	1922b
	---; ---; 146	Jordan	1933
	---; ---; 149	da Costa Lima & Hathaway	1946
<i>loncius</i> Jordan	---; ---; 145	da Costa Lima & Hathaway	1946
<i>mjöbergi</i> Jordan	---; at high altitudes; 145	Jordan & Rothschild	1926
<i>phoberus</i> Jordan & Rothschild	---; ---; 70	Thompson	1938
<i>pomerantzi</i> Traub	---; ---; 242	Traub	1951
<i>ral'us</i> Traub	---; ---; 242	Traub	1951

TABLE 1 - FLEAS

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STIVALIUS</i> <i>rhaesbus</i> Jordan	---; at high altitudes; 145	Jordan & Rothschild	1926
<i>robisoni</i> (Rothschild)	---; ---; 146, 149, 190 ---; ---; 242	Jordan & Rothschild Traub	1922b 1951
<i>spiramus</i> Jordan	---; ---; 242	da Costa Lima & Hathaway	1946
<i>syneitus</i> Jordan & Rothschild	---; ---; 149	Jordan & Rothschild	1922b
<i>SYNOSTERNUS</i> <i>cleopatrae</i> Rothschild	---; ---; 342	da Costa Lima & Hathaway	1946
<i>longispinus</i> (Wagner)	---; ---; 162, 354 ---; ---; 166, 318, 326	da Costa Lima & Hathaway Pavlovskii	1946 1927
<i>pallidus</i> (Taschenberg)	---; ---; 143, 151, 354 ---; ---; 256 ---; ---; 318	Sharif Sassuchin et al. Vlasov	1930 1935 1932
<i>pallidus</i> <i>pallidus</i> (Taschenberg)	---; ---; 143, 151, 354	da Costa Lima & Hathaway	1946
<i>TARSOPSYLLA</i> <i>octodecimdentata</i> (Kolenati)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>THAUMAPSYLLA</i> <i>breviceps</i> Rothschild	---; ---; 70, 242 ---; ---; 146, 190, 277	da Costa Lima & Hathaway Traub	1946 1951
<i>longiforceps</i> Traub	---; ---; 145, 146, 242	Traub	1951
<i>TRICHOPSYLLA</i> <i>advenaria</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TRICHOPOSYLLA</i>			
<i>andyra</i> (Jordan)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>appropinquans</i> Wagner	---; ---; 256	Wagner	1930
<i>caloxifer</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>globiceps</i> Taschenberg	---; ---; 294	Pavlovskii	1927
<i>homoeus</i> <i>carenis</i> Jordan	---; ---; 59	Jordan	1932a
<i>pencilliger</i> <i>pencilliger</i> (Grude)	---; ---; 158, 256, 354	da Costa Lima & Hathaway	1946
<i>rectangulata</i> (Wahlgren)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>toli</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>trichosa</i> Kobaut	---; ---; 294	Pavlovskii	1927
<i>turbida</i> (Rothschild)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>walkeri</i> (Rothschild)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>TUNGA</i>			
<i>caecigena</i> Jordan & Rothschild	---; ---; 76	Riley	1932
	---; ---; 158	Jameson	1953
<i>lagrangei</i> Roubaud	---; ---; 76	Patton	1926
<i>penetrans</i> (Linnaeus)	---; ---; 76	da Costa Lima & Hathaway	1946
	---; ---; 143 (Attacks man)	Riley	1932
<i>TYPHLOPOSYLLA</i>			
<i>caucausica</i> Taschenberg	---; ---; 345	Baker	1895

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TYPHLOCALLOPSYLLA</i> <i>semenovi</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>VERMIPSYLLA</i> <i>alacurt</i> Schimkewitsch	---; ---; 162, 353	Pavlovskii	1927
<i>dorcadia</i> Rothschild	---; ---; 76	Wu	1940
<i>hyaenae</i> Kolenati	---; ---; 345	Wagner	1916
<i>WAGNERINA</i> <i>shelkovnikovi</i> Ioff & Argyropulo	---; indoors; 28	Ioff & Argyropulo	1934
<i>XENODAERIA</i> <i>telios</i> Jordan	---; ---; 143	Jordan	1932a
<i>XENOPSYLLA</i> <i>astia</i> Rothschild	---; ---; 25, 151, 280 ---; ---; 59* ---; carrier of plague, Dec.-Jan., sharp rise in June; 70° ---; experimental transmission of plague; 70, 143 ---; Feb.; 70 ---; ---; 70* ---; ---; 76 ---; potential carrier of plague, Jul.-Oct., peak March-June; 143 ---; vector capacity for plague, peak Sept.-Oct.; 143 ---; experimentally infected with plague; 143 ---; experimental infection of <i>Pasteurella pestis</i> ; 143	Sharif Wilcocks Philip & Hirst Goyle Leeson Cragg Patton Strickland & Roy Walker et al. Webster & Chitre Webster & Chitre	1930 1944 1917 1928 1932 1920 1926 1930 1931 1930 1930b

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>astia</i>	---; enters houses; Jan., July-Aug.; 143	King et al.	1931
Rothschild (cont.)	---; near houses, Sept.-Dec.; 143*	King & Iyer	1933
	---; Oct.- March; 143	Taylor & Chitre	1923
	---; all year; 143	Webster & Chitre	1930a
	---; in huts, March-Apr.; 143	Iyer	1933
	---; ---; 143*	George & Timothy	1941
	---; ---; 144*	Herivaux & Toumanoff	1948a
	---; ---; 145, 146*, 235	Kopstein	1931
	---; ---; 302	da Costa Lima & Hathaway	1946
<i>brasiliensis</i> (Baker)	---; ---; 70	Thompson	1937
	---; ---; 76	Patton	1926
	---; experimental transmission of plague, experi- mentally infected with <i>Pasteurella pestis</i> ; 143	Webster & Chitre	1930b
	---; abundant in houses, March-Apr.; 143	Iyer	1933
	---; ---; 143*	George & Timothy	1941
	---; March-May, Aug.-Sept., Nov.; 143	Webster & Chitre	1930a
	---; Jan.-March, Oct.; 143	Taylor & Chitre	1923
	---; near houses; 143*	King & Iyer	1933
	---; ---; 235	Sharif	1930
<i>cheopis</i> (Rothschild)	---; ---; 31*, 76*	Wu	1940
	---; ---; 31, 151	Sharif	1930

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>cheopis</i> (Rothschild) (cont.)	---; in houses; 35	Wagner & Argyropulo	1935
	---; carrier of plague; 59	Wilcocks	1944
	---; Feb.; 70	Leeson	1932
	---; ---; 70*	Hirst	1933
	---; common, principal vector of plague and murine typhus; 76**	Ka et al.	1948
	---; common carrier of bubonic plague bacillus; 76	Patton	1926
	---; naturally infected with typhus rickettsiae; 76	Liu	1947
	---; all year, possible vector of plague; 76	Yeng et al.	1939
	---; Feb.-Sept.; 76	Liu	1944
	---; May-June; 76	Rothschild	1914
	---; Aug.-Sept.; 118	Stepanov	1931
	---; enters houses; 118	Ioff	1928a
	---; ---; 133	Landauer	1938
	---; ---; 139**	Heiao	1945
	---; experimental transmission of plague, experi- mentally infected with <i>Pasteurella pestis</i> ; 143	Webster & Chitre	1930b
	---; hot and damp coastal zone; 143. ---; ---; 145, 350. ---; high in the mountains, indoors; 146*	Kopstein	1931
	---; suspected vector of typhus, all year, peak Sept.-Oct.; 143	Mehta	1937
	---; experimental transmission of typhus strain, Aug.; 143	Covell & Mehta	1936
	---; enters houses, rare, Sept.-Oct.; 143	King et al.	1931
	---; peak July-Oct., Nov.-Feb.; 143	Strickland & Roy	1940
	---; Oct.-March; 143	Taylor & Chitre	1923

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>cheopis</i> (Rothschild)	---; near houses, Nov.-Dec.; 143*	King & Iyer	1933
(cont.)	---; ---; 143*	Cragg	1920
	---; frequents houses; 144*	Wilcocks	1944a
	---; most active Feb.-May; 144	Herivaux & Toumanoff	1948
	---; experimental infection and transmission of pest; 146	Schwellengrabel & Otten	1914
	---; ---; 149, 150, 242	da Costa Lima & Hathaway	1946
	---; July, Sept.; 154. ---; Sept.-Oct., principal vector of <i>Pasteurella pestis</i> ; 342*	Buxton	1924
	---; ---; 158**	Jameson	1953
	---; ---; 162	Povpop & Akhundov	1934
	---; readily attacks man, most important vector of plague and murine typhus; 168**	Barnett & Toshioka	1951
	---; all year, peak Aug.-Sept.; 168	Hsiao	1948
	---; ---; 174, 302	Anonymous	1944c
	---; experimentally infected with urban typhus, suspected vector of urban typhus; 190	Lewthwaite et al.	1935
	---; experimental transmission of tropical typhus; 190	Kingsbury	1936
	---; vector of plague and murine typhus; 194**	Hsiao	1946
	---; ---; 235	Sinton	1925
	---; ---; 242*	Banks	1919 +
	---; active Jan., March-May, July-Dec.; 256	Pokrovski	1931
	---; ---; 256*	Pavlovskii	1931 +
	---; ---; 280	Gilmour	1934

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>cheopis</i> (Rothschild)	---; ---; 317*	Anonymous	1944
(cont.)	---; Aug.-Sept.; 321	Roshkovskaya	1937
	---; ---; 337*	Farner	1943
	---; ---; 342 (Connected with bubonic plague)	Anonymous	1944b
<i>conformis</i> Wagner	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 150, 162, 345, 354	da Costa Lima & Hathaway	1946
	---; ---; 166, 318, 326	Pavlovskii	1927
	---; ---; 256	Sassuchin et al.	1935
<i>gerbilli</i> (Wagner)	---; ---; 162, 166, 318, 326	Pavlovskii	1927
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 354	da Costa Lima & Hathaway	1946
<i>hirtipes</i> Rothschild	---; ---; 162, 326	Ioff	1923a
	---; ---; 256	Sassuchin et al.	1935
<i>hussaini</i> Sharif	---; ---; 143	Sharif	1930
<i>magdalinae</i> Ioff	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Ioff	1935
<i>minax</i> Jordan	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
<i>mycerini</i> Rothschild	---; ---; 162	Ioff	1928a
	---; experimental : anamission of plague; 256	Nikanoroff	1929
	---; ---; 256*	Pavlovskii	1931 +

TABLE 1 - FLEAS (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>nesiotes</i> (Jordan & Rothschild)	---; ---; 146	da Costa Lima & Hathaway	1946
	---; ---; 149	Kopstein	1931
<i>nubica</i> Rothschild	---; ---; 302, 342	da Costa Lima & Hathaway	1946
<i>nuttalli</i> Ioff	---; ---; 31	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
<i>namesis</i> Rothschild	---; ---; 154	Buxton	1924
	---; ---; 342	Anonymous	1944b
<i>regis</i> Rothschild	---; ---; 25	da Costa Lima & Rothschild	1946
<i>sewelli</i> Sharif	---; ---; 143	Sharif	1930
<i>skrjabini</i> Ioff	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 354	da Costa Lima & Hathaway	1946

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY PLEAS

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	: VIRUS &	: RICKETTSIA	: PROTOZOA	: HELMINTHS	: OTHER	
:	:	:	:	:	:	:
<i>CERATOPHYLLUS</i>						
<i>anisus</i>	Murine typhus				Plague	194
Rothschild						
<i>LEPTOPSYLLA</i>						
<i>segnis</i>					Plague	143
(Schönherr)						
<i>LOEMOPSYLLA</i>						
<i>cheopis</i>					Plague	342
(Rothschild)						
<i>NOSOPSYLLUS</i>						
<i>faessiatus</i>	Murine typhus				Bubonic plague	158 166
Bosc d'Antic						
<i>PULEX</i>						
<i>irritans</i>					Bubonic plague	158 168
Linnaeus						
<i>XENOPSYLLA</i>						
<i>astia</i>					Plague	59 143
Rothschild						70 144
<i>brasiliensis</i>					Plague	143
(Baker)						
<i>cheopis</i>					Bacillus pestis	342
(Rothschild)						
	Murine typhus				Bubonic plague	139
						76 (Ka et al 1948)
						158 (Jameson 1953)
						168 (Barnett & Toshioka 1951)
						194 (Meiao 1946)
					Plague	70 168
						76 194
						144 242
						158 317

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I. BUGS

The bugs or Hemiptera seem to be uncommon as pests of man in Asia. The few entries comprise a variety of species, several of which are not obligated blood feeders. Only 11 species or subspecies are listed for this group.

TABLE 1 - BUGS

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CIMEX hemiptera</i> (Fabricius)	---; experimentally infected of <i>Leishmania</i> <i>donovani</i> ; 143	Shortt & Swaminath	1924
	---; bites man in the dark and hides in crevices of walls, beds and seams of bedding in the daytime, experimental transmission of relapsing fever, Kala-azar, plague, and tularemia; 168°	Hsiao	1948
<i>Lectularius</i> Linnaeus	---; experimentally infected with Kala-azar; 76	Young & Hertig	1929
	---; in beds, experimentally infected with <i>Spirochaeta recurrentis</i> ; 76	Chung	1936
	---; found in cracks and crevices in furniture, experimental transmission of typhus from man to man; 76	Liu	1944
	---; experimentally infected with <i>Leishmania</i> <i>donovani</i> ; 143	Shortt & Swaminath	1924
	---; bites man in the dark and hides in crevices of walls, beds and seams of bedding in daytime; experimental transmission of relapsing fever, Kala-azar, plague and tularemia; 168°	Hsiao	1948
	---; in crevices of beds and of rooms, bloodsucker; 242°	Banks	1919
	---; experimentally infected with tularemia; 256	Bozhenko	1936
	---; experimentally infected with plague; 256	Novikova & Lalazarov	1932
	---; naturally and experimentally infected with <i>Spirochaeta recurrentis</i> and <i>S. duttoni</i> , in houses; 256	Rosenholz	1927
	---; experimentally infected with tularemia; 317	Server Kamil & Sait Bilal	1938
	---; ---; 317°	Anonymous	1944
<i>rotundatus</i> Linnaeus	---; from a bed, naturally infected with Kala-azar; 143	Adie	1922
	---; in clothing; 146	Schwellengrebel & Otten	1914

TABLE 1 - BUGS (concluded)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ECTOMOCORIS</i>			
<i>atrox</i> Stal	---; bites may lead to secondary infection in man; 242°	Banks	1919
<i>ululans</i> Rossi	---; ---; 318°	Vlasov	1935
<i>NEPHOTETTIX</i>			
<i>apicalis</i> Motsch.	---; bites at night; 242°	Banks	1919
<i>bipunctatus</i> Fabricius	---; bites at night; 242°	Banks	1919
<i>REDUVIUS</i>			
<i>fedtschenkianus</i> Osch.	---; ---; 318°	Vlasov	1935
<i>TRIATOMA</i>			
<i>rubrofasciata</i> (De Geer)	---; experimentally infected with <i>Trypanosoma cruzi</i> ; 11, 59, 70, 76, 77, 139, 143, 144, 145, 146, 149, 190, 242, 270, 277 ---; enters houses at night; 76° ---; enters houses; 143 ---; infected with flagellates of <i>Critidium conorhini</i> Donovan, suspected vector of Kala-azar; 143. ---; enters houses at night, possible vector of chagas disease; 242° ---; enters houses, possible vector of <i>Leishmania</i> ; 150°	Neiva & Lent Esaki Awati Africa Anonymous	1941 1926 1921 1934 1943
<i>rubrovaria</i> (Blanchard)	---; ---; 146°	Larrousse	1924

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J. URTICATING AND VESICATING ARTHROPODS

The entries for urticating and vesicating arthropods are surprisingly few. Actually, only 23 species or subspecies are listed.

TABLE 1 - URTICATING AND VESICATING ARTHROPODS

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARCTORNIS</i> <i>xanthoampa</i> Dyar	---; ---; 168*	Hsiao	1948
<i>DENDROLIMUS</i> <i>spectabilis</i> Butler	---; ---; 158*	Wada	1925
<i>---</i> <i>excellens</i> Butler	---; ---; 168*	Hsiao	1948
<i>EOBIA</i> <i>cinererpennis</i> <i>ogasawarensis</i> Mats.	---; ---; 232*	Kono	1939
<i>EUPROCTIS</i> <i>flava</i> Bremer	---; attracted to light, enters houses, August; 76*. Illingworth ---; indoors, July; 158*		1926
	---; ---; 168*	Mills	1923
<i>GASTROPACHA</i> <i>quercifolia</i> Linnaeus	---; ---; 168*	Hsiao	1948
<i>MARSOIDEUS</i> <i>flavidorealis</i> Staudinger	---; ---; 168*	Hsiao	1948
<i>MICROLIRON</i> <i>longipalpis</i> Butler	---; ---; 168*	Hsiao	1948
<i>NYGMIA</i> <i>sub-flava</i> Bremer	---; early summer to early fall, poisonous hairs cause urticarial dermatitis when in contact with the body; 168*, 194*, 256*	Hsiao	1948
<i>OPHRANVEUS</i> <i>brevilabiatus</i> Hemp.	---; common in houses in warm season, during day hidden in dark spots and cracks of walls; nocturnal, secretes a phosphorescent substance of strong phosphor smell, causing redness of the skin, unnatural swelling, blisters, crusts, peeling of the skin accompanied by much itching; 144*	Phisalix & Houdemer	1934
<i>OTOSTIGMUS</i> <i>aculeatus</i> Haase	---; common indoors during hot season, during day hidden in dark spots and cracks of walls, nocturnal, secretes a phosphorescent substance of strong smell, causing redness of the skin, unnatural swelling, blisters, crusts, peeling and much itching of the skin; 144*	Houdemer	1926

TABLE 1 - URTICATING AND VESICATING ARTHROPODS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PAEDERUS albipilis</i> Solsky	---; ---; 256* ---; experimentally produced dermatitis; 303	Dallas Pavlovskii & Stein	1936 1929
<i>alternans</i> Walker	Found during the whole season, on boards of partly flooded ricefields, on grassy boards of ponds in marshes; May-Sept., common, enters houses; attracted to artificial light; 144* ---; produce dermatitis; 144*	Genevray et al	1934 1940
<i>fuscipes</i> Curtis	---; ---; 31, 235, 256. Under grass and low bushy vegetation on sloping banks along rivers or permanent water channels, damp sandy loam or sandy soil; April-June, enters houses with artificial light, causes dermatitis; 143*	Isaac	1933
	Found during the whole season on boards of partly flooded ricefields, on grassy boards of ponds, in marshes; May-Sept., common, enters houses attracted by artificial light; 144*	Genevray et al	1934
	---; ---; 256*	Pickel	1940
<i>idae</i> Sharp	---; ---; 76*, 168*	Dallas	1936
	---; ---; 158*	Pickel	1940
<i>melampus</i> Erichs	---; enters houses, barracks, tents in rainy season; 143*	Rajatti	1947
<i>peregrinus</i> Erichs	---; ---; 146*	Pickel	1940
	---; ---; 146*	Dallas	1936
<i>riparius</i> Linnaeus	---; ---; 158*	Pickel	1940
<i>PARASA consocia</i> Walker	---; ---; 168*	Heiao	1948
<i>hilarata</i> Staudinger	Experimental transmission of dermatitis; ---; 76	Mills	1925

TABLE 1 - URTICATING AND VESICATING ARTHROPODS (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PARASA sinica</i> Moore	---; ---; 168°	Heiao	1948
<i>SCOLOPENDRA cingulata</i>	---; sting causes intense pain, wide inflammatory swollen condition of the tissue in various parts of the body; 144°	Phisalix & Houdemier	1934
<i>XANTHOCHROM atriceps</i> Lewis	---; common July, August; 138°, 256°	Kono	1939

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
URTICATING AND VESICATING ARTHROPODS

SPECIES	DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>ACTORNIS</i> <i>xanthoocampa</i> Dyar					Dermatitis	168
<i>DENDROLIMUS</i> <i>spectabilis</i> Butler					Dermatitis	158
<i>undans</i> <i>excellens</i> Butler					Dermatitis	168
<i>EOBIA</i> <i>cinererpennis</i> <i>ogasawarensis</i> Mats.					Skin vesicant	232
<i>EUPROCTIS</i> <i>flava</i> Bremer					Dermatitis	76, 158
<i>GASTROPACHA</i> <i>quercifolia</i> Linnaeus					Dermatitis	168
<i>MAROSOIDEUS</i> <i>flavidorealis</i> Staudinger					Dermatitis	168
<i>MICROLEON</i> <i>longipalpis</i> Butler					Dermatitis	168
<i>NYGMIA</i> <i>sub-flava</i> Bremer					Dermatitis	168
<i>NYGMIA</i> <i>sub-flava</i> Bremer						194
<i>NYGMIA</i> <i>sub-flava</i> Bremer						36
<i>ORPHANOEUS</i> <i>brevilabiatus</i> Hemp.					Skin vesicant	166
<i>OTOSTIGMUS</i> <i>aculeatus</i> Meuse					Skin vesicant	166

TABLE 2 - URTICATING AND VESICATING ARTHROPODS (conclusion)

SPECIES	DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>PAEDERUS</i> <i>albipilis</i> Solsky					Dermatitis	256
<i>alternans</i> Walker					Dermatitis	144
<i>fuscipes</i> Curtis					Dermatitis	143
					Dermatitis	144
					Dermatitis	256
<i>idae</i> Sharp					Dermatitis	76, 168
					Skin vesicant	158
<i>melampus</i> Erichs					Vesicular dermatitis	143
<i>peregrinus</i> Erichs					Dermatitis	146 (Dallas, 1936)
					Skin vesicant	146
<i>riparius</i> Linnaeus					Skin vesicant	158
<i>PARASA</i> <i>consocia</i> Walker					Dermatitis	168
<i>sinica</i> Moore					Dermatitis	168
<i>SCOLOPENDRA</i> <i>cingulata</i>					Dermatitis	144
<i>XANTHOCHROA</i> <i>atriceps</i> Lewis					Skin vesicant	158
					Dermatitis	256

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K. TICKS

The tick entries seldom include information on the immature forms separately from the adults. In fact, most of the entries contain only distributional data.

Ticks are important livestock pests in Asia; and also, some serious disease organisms are transmitted by ticks. In Table 1 are listed 401 species or subspecies.

TABLE 1 - TICKS

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i>			
<i>americanum</i> (Linnaeus)	---; 242	Robinson	1926
<i>babirussae</i> Schulze	---; 145°	Anastos	1950
<i>boucardi</i> Toumanoff	---; 144	Toumanoff	1944
<i>caelatum</i> Cooper & Robinson	---; 145	Schulze	1936
	---; 190, 280	Robinson	1926
<i>caelatum</i> <i>perfectum</i> Schulze	---; 149	Schulze	1936
<i>cayennense</i> Fabricius	---; 151	Brumpt	1938
<i>clypeolatum</i> Neumann	---; 70, 143	Robinson	1926
<i>compactum</i> Neumann	---; 149	Bequaert	1933
<i>cordiferum</i> Neumann	---; 146, 147, 277	Anastos	1950
<i>crenatum</i> Neumann	---; 146, 149, 190	Anastos	1950
<i>cyprium</i> Neumann	---; 76, 77, 242	Haiao	1945
	---; 144	Toumanoff	1944
	---; 145, 146, 147, 190	Anastos	1950
<i>cyprium</i> <i>acutipes</i> Schulze	In houses; 242°	Kohls	1950
<i>dissimile</i> Koch	---; 242	Robinson	1926
<i>elephantinum</i> Koch	---; 190	Bequaert	1933
<i>elephantinus</i> Linnaeus	---; 149	Bequaert	1933
<i>extraoculatum</i> Neumann	---; 280	Robinson	1926

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i> <i>fallax</i> Schulze	---; 190	Bequaert	1933
<i>feuerborni</i> Schulze	---; 146	Schulze	1933
<i>formosanum</i> Schulze	---; 77	Schulze	1935
<i>geoemydae</i> (Cantor)	---; 145, 149	Anastos	1950
<i>hebraeum</i> Koch	---; 70	Robinson	1926
	Rare; 143	Roy & Brown	1954
<i>helvolum</i> Koch	---; 143, 145, 146, 190, 224, 242, 277, 280, 337	Anastos	1950
	Feb.; 149	Warburton	1926a
<i>infestum</i> Koch	---; 59	Schulze	1939
	---; 146, 149	Bequaert	1933
<i>infestum</i> <i>borneense</i> Schulze	---; 145	Schulze	1936a
<i>infestum</i> <i>taivanicum</i> Schulze	---; 77	Schulze	1935
<i>integrum</i> Karsch	---; 70	Warburton	1925
	---; 143 ^o	Toumanoff	1944
	---; 143	Sen	1938
<i>javanense</i> (Supino)	---; 59, 70, 75, 76, 133, 143, 144, 146, 149, 190, 242, 277, 337	Anastos	1950
<i>latiocauda</i> Warburton	---; 280	Warburton	1933
<i>lepidum</i> Dünitz	---; 291	King	1926
	---; 342	Bodenheimer	1937
<i>molayanum</i> Neumann	---; 149, 190, 242, 280	Anastos	1950
<i>nitidum</i> Hirst & Hirst	---; 11	Toumanoff	1944

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i> <i>quadrimaculatum</i> Neumann	---; 146, 149	Schulze	1933
<i>robinsoni</i> Warburton	---; 144	Toumanoff	1944
	---; 146	Anastos	1950
<i>sublaeve</i> Neumann	---; 59, 76, 143, 146, 149, 190, 235, 277	Robinson	1926
	---; 70	Warburton	1925
	---; 76, 143, 190, 337	Hsiao	1945
	---; 366	Sen	1938
<i>subluteum</i> Neumann	---; 149	Bequaert	1933
<i>supinoi</i> Neumann	---; 59, 366	Schulze	1939
	---; 143	Sen	1938
	---; 144	Toumanoff	1944
	---; 235	Robinson	1926
<i>testudinarium</i> Koch	---; 59°, 70°, 76°, 77, 143°, 144°, 145°, 146°, 147°, 149°, 190°, 337	Anastos	1950
	---; 59, 70, 143, 144, 145, 146, 190	Robinson	1926
	May; 149	Warburton	1926b
	---; 242°	Kohls	1950
	---; 377°	Toumanoff	1944
	---; 366	Sen	1938
<i>variegatum</i> (Fabricius)	---; 143	Morel & Mouchet	1958
	At elevations 2500-5000 feet; 332	Hoogstraal	1956
<i>yajimai</i> Kishida	---; 77	Kishida	1935
<i>APOROMMA</i> <i>barbouri</i> Anastos	---; 146	Anastos	1950
<i>bourreti</i> Toumanoff	---; 144	Toumanoff	1944

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APONOMMA</i>			
<i>crassipes</i>	---; 144	Toumanoff	1944
Neumann	---; 166	Yakimoff	1917
<i>draconis</i>	---; 146, 337	Warburton	1933
Warburton			
<i>ecinotum</i>	---; 242	Kohls	1950
Neumann			
<i>fuscolineatum</i>	---; 143, 337	Schulze	1936a
(Lucas)			
<i>gervaisi</i>	---; 70, 143	Schulze	1936a
(Lucas)	---; 144	Toumanoff	1944
	---; 146, 149	Farner	1943
<i>gervaisi</i>			
var. <i>luoasi</i>	---; 143	Roy & Brown	1954
Warburton			
<i>komodoense</i>	---; 146	Anastos	1950
Oudemans			
<i>laeve</i>	---; 143	Sen	1938
Neumann			
<i>latum</i>	---; 337	Howard	1908
(Koch)			
<i>luoasi</i>	---; 59, 70, 143, 146, 147, 149, 224, 277,	Anastos	1950
Warburton	337		
<i>pattoni</i>	---; 70	Warburton	1925
Neumann	---; 143	Roubaud & Colas-Belcourt	1935
<i>principatum</i>	---; 70	Warburton	1925
(Lucas)			
<i>pseudolaeve</i>	---; 76	Meiso	1945
Schulze			
<i>trimaculatum</i>	---; 147, 337	Anastos	1950
(Lucas)	Feb.; 149	Warburton	1926a
<i>undatum</i>	---; 149	Schulze	1933
Fabricius			
<i>ARGAS</i>			
<i>boueti</i>	---; 342	Hoogstraal	1956
Roubaud & Colas-Belcourt			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARGAS</i> <i>brumpti</i> Neumann	---; 251°	King	1926
<i>miniatus</i> Koch	---; 77	Sugimoto	1936a
<i>persicus</i> Oken	---; 28 ---; 31, 76, 162, 317, 318, 326, 345 (Summer) ---; 70 ---; 76° ---; 118 ---; 143 ---; 144 ---; 146 In houses, attacks man and can cause illness and death; 150° (Bloodsucker, hides in crevices of woodwork) Suspected of transmitting relapsing fever to man; 150, 342. Widely spread; 342 Stables; 150	Pomorantzev Anastos Crawford Hsiao Matikashvili Sen Toumanoff Farner Bedford Adler et al.	1934 1957 1938 1945 1932 1938 1944 1943 1934 1937
	---; 151 ---; 154 ---; 168° In houses, in hay used for bedding; 235 ---; 231 Experimentally infected with plague; 236 ---; 317 ---; 332 Lowlands, subtropical and tropical countries, resistant to climactic influences; 342	Delpy Brumpt Buxton Kobayashi Rao & Kalra King Paddeeva Vogel Hoogstrai Rodenheimer	1947 1938 1924 1925 1949 1926 1932 1932 1956 1934
<i>persicus</i> <i>persicus</i> Fischer de Waldheim	---; 167, 326	Takimoff	1917

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARGAS</i>			
<i>pipistrellae</i> Audouin	---; 76	Hoeppli & Peng	1933
<i>pusillus</i> Kohls	---; 242	Kohls	1950
<i>reflexus</i> (Fabricius)	---; 76°, 256°.---; 303, 321, 326 ---; 143, 150, 256, 340, 342, 345 (Bites man, in houses)	Anastos	1957
	---; 162,	Hoogstraal	1956
	Indoors, in cracks in walls and beams, May, July, Aug., Sept.; 317	Yakimoff	1922
		Vogel	1927
<i>reflexus</i> <i>hermanni</i> Audouin	---; 236	Hoogstraal & Kohls	1960
<i>reflexus</i> var. <i>indicus</i> Warburton	---; 143	Sharif	1938
<i>scavignyi</i> Audouin	---; 2, 23, 143 (Loose soil in shade of desert trees and rocks, on man)	Bedford	1934
<i>vespertilionis</i> (Latreille)	---; 70, 76, 143, 168, 242, 256 ---; 77 Nov.; 144 Tents, furniture, clothes; 191 ---; 162, 345 ---; 321	Hoogstraal	1956
		Neumann	1913
		Borel	1928
		Patton	1920
		Anastos	1957
		Yakimoff	1922
<i>BOOPHILUS</i>			
<i>annulatus</i> Doeve	---; 143	Roy & Brown	1954
<i>annulatus</i> (Say)	---; 145, 147 ---; 151 ---; 154 ---; 303 ---; 317 ---; 342	Ghauri and Stekhoven	1923
		Patton	1920
		Buxton	1924
		Galuse & Bogolov	1933
		Stefko	1917
		Smith	1931

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BOOPHILUS</i> <i>annulatus</i> var. <i>australis</i>	---; 11, 143, 144, 242° (Larvae found on man)	Toumanoff	1944
<i>australis</i> Fuller	---; 11, 59, 242, 366	Sharif	1938
	---; 70	Warburton	1925
	Game forest, fields, bushes, experimentally infected with murine typhus rickettsia; 143	Kalra & Roa	1949
	---; 235	Sen	1938
<i>annulatus</i> var. <i>calcaratus</i> (Birula)	---; 35	Yakimoff et al.	1932
	---; 143	Sen	1938
	---; 146	Schuurmans Stekhoven	1923
	---; 162	Yakimoff et al.	1926
	---; 256	Zolotarev	1934
	---; 321	Yakimoff	1929
	---; 342	Smith	1931
	Apr.-Aug.; 345	Yakimoff et al.	1929
<i>annulatus</i> var. <i>caudatus</i> (Neumann)	---; 77, 158, 168, 257	Ogura	1936
<i>calcaratus</i> Birula	---; 35, 150, 162, 166, 303, 318, 321, 326, 343, 350 (Lowlying marshy areas, water meadows and edges of irrigation ditches)	Anastas	1957
	Apr.-Oct., Nov.; 118	Merkov & Bogoroditskii	1935
	---; 151	Brumpt	1938
	Abundant Mar.-Apr., June-Sept.; 256	Kurchatov	1940
	---; 317	Weyer & Zumpt	1952
<i>calcaratus</i> <i>balcanicus</i> Minning	---; 317	Minning	1934
<i>calcaratus</i> <i>odontocerus</i> Birula	---; 345	Minning	1936

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BOOPHILUS</i>			
<i>calcaratus</i>	---; 154	Manning	1934
<i>palestinensis</i>	---; 342	Manning	1936
Manning			
<i>calcaratus</i>	---; 150	Manning	1936
<i>persicus</i>			
Manning			
<i>caudatus</i>	---; 31, 168	Barnett & Toshioka	1951
Neumann			
<i>decoloratus</i>	---; 144	Lagrange	1922
(Koch)	---; 150, 302	Hoogstraal	1956
	---; 168	Hsiao	1948
<i>intraoculatus</i>	---; 150	Manning	1936
Manning			
<i>microplus</i>	---; 59, 145, 146, 147, 149, 224, 242, 337	Anastos	1950
(Canestrini)	---; 70, 76, 144, 158, 235	Manning	1934
<i>minningi</i>	---; 168	Hsiao	1948
(Koshida)			
<i>schulzei</i>	---; 154, 342	Manning	1934
Manning			
<i>DERMACECTOR</i>			
<i>albopictus</i>	Experimentally infected with spotted fever; 168	Hsiao	1948
(Packard)			
<i>andersoni</i>	Experimentally infected with typhus rickettsiae; 76	Liu	1944
Stiles			
<i>antromum</i>	---; 28	Anastos	1957
Resnik			
<i>asper</i>	---; 76	Arthur	1960
Arthur			
<i>atresignatus</i>	---; 77	Neumann	1913
Neumann			
<i>auratus</i>	---; 59°	Anastos	1950
Supino	---; 70	Warburton	1925
	Suspected vector of tick typhus fever; 143. Naturally infected with tick typhus fever; 149	Sherif	1938
	---; 143°	Sen	1938

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACENTOR</i>			
<i>auratus</i>	---; 144	Toumanoff	1944
<i>Supino</i>	---; 146	Arthur	1960
(cont.)	Apr.; 14°	Warburton	1926a
	Aug.; 149	Warburton	1926b
<i>birulai</i>	---; 76	Hsiao	1945
<i>Olenev</i>			
<i>birulai</i>	---; 76	Olenev	1929
<i>bukunorunensis</i>			
<i>Olenev</i>			
<i>coreus</i>	---; 168	Barnett & Toshicka	1951
<i>Itaki, Noda & Yamaguchi</i>			
<i>daghestanicus</i>	---; 162, 318, 326, 353	Pomerantzev	1946
<i>Olenev</i>			
<i>daghestanicus</i>	---; 256	Schulze	1933a
<i>daghestanicus</i>			
<i>sillemi</i>	---; 235	Schulze	1933a
<i>Schulze</i>			
<i>everestianus</i>	---; 76	Hsiao	1945
<i>Hirst</i>			
<i>marginatus</i>	---; 28, 35, 162, 166, 321, 345 (Forest	Anastas	1957
(Sulzer)	steppe regions, vector of tick-borne		
	typhus, regarded as a vector of spring-		
	summer and B. encephalitis)		
	Steppe forest; 256°	Karpov et al.	1960
<i>marginatus</i>			
<i>marginatus</i>	---; 256	Schulze	1933a
(Sulzer)			
<i>nitens</i>	Experimentally infected with typhus	Liu	1944
<i>Neumann</i>	rickettsiae; 76		
	---; 77	Sugimoto	1936
<i>niveus</i>	---; 28, 35, 150, 162°, 207, 256, 303, 318,	Anastas	1957
<i>Neumann</i>	326, 345, 353 (Desert zone)		
	---; 35	Yakimoff et al.	1932
	---; 118	Matikashvili	1932
	Apr.-June; 256°	Popov	1928

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACECTOR</i> <i>nuttalli</i> Olenev	---; 76, 256°, 353	Anastos	1957
	---; 209	Schulze	1933a
	Transmitter of a typhical typhus; 256*	Pletzity	1947
	---; 256*	Petrova- Pioetkovskaya	1941
<i>otrosignatus</i> Neumann	---; 77	Sugimato	1936
<i>pavlovskyi</i> Olenev	---; 31, 162, 166, 326	Anastos	1957
<i>pictus</i> Hermann	---; 60, 162, 166, 194, 256°. Aug.-Apr.; 345	Anastos	1957
	In steppes; 256	Pletzity	1947
	---; 256*	Karpov et al.	1960
<i>pomerantzevi</i> Serdiukova	---; 256	Anastos	1957
<i>pomerantzevi</i> <i>serdjukova</i> Serdiukova	---; 256	Serdiukova	1951
<i>raskemensis</i> Pomerantzev	Nov.; 162	Anastos	1957
<i>reticulatus</i> Fabricius	---; 60, 162, 256, 321, 345	Yakimoff	1917
	---; 76	Heoppli & Feng	1933
	---; 168°	Barnett & Toshioka	1951
	---; 194°	Heiao	1945
	---; 194	Heiao	1946
	Possible vector of Omsk haemorrhagic fever and Russian Spring Summer Encephalitis; 256	Thompson	1964
	Attacks man; 256°	Belitzer	1914
<i>reticulatus</i> <i>niveus</i> Neumann	---; 162, 345	Yakimoff	1922
<i>reticulatus</i> <i>reticulatus</i> Fabricius	---; 162, 318	Yakimoff	1917

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACECTOR</i> <i>silvarum</i> Olenev	---; 28, 35, 60, 162, 345 ---; 118 Mar.-Sept.; 162° ---; 194 Forest and bush vegetation, May-Sept.; 256, 353 (Vector of endemic encephalites, tularemia, plague and tick-borne typhus)	Anastos Matikashvili Golov Hsiao Arthur	1957 1932 1933 1946 1960
	Grass steppes, July-Aug.; 256*	Pletzity	1947
	Steppe forest zone; 256	Karpov et al.	1960
	Experimentally infected with tularemia; 256	Sassuchin	1936
	---; 256°, 353**	Pavlovskii	1947
	---; 303	Anastos	1957
	---; 321°	Pogorely	1936
<i>silvarum</i> <i>ablutus</i> Schulze	---; 256	Schulze	1933a
<i>silvarum</i> <i>silvarum</i> Olenev	---; 293	Schulze	1933a
<i>sinicus</i> Schulze	---; 76	Hsiao	1945
<i>sinicus</i> <i>pallidior</i> Schulze	---; 76	Hsiao	1945
<i>sinicus</i> <i>sinicus</i> Schulze	---; 76	Schulze	1933a
<i>taiwanensis</i> Sugimoto	---; 77	Toumanoff	1944
<i>variabilis</i> Say	---; 242°	Banks	1919
<i>variegatus</i> var. <i>kamtschadalus</i> Neumann	---; 256	Yakimoff	1917
<i>varius</i> <i>kamtschadalus</i> Neumann	---; 256	Schulze	1933a

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMacentor</i> <i>venustus</i> Banks	---; 280	Sarsuchin	1934
<i>DISCOLOPHUS</i> <i>tokunagai</i> Kishida	---; 76	Hsiao	1946
<i>HAEMAPHYSALIS</i> <i>aborensis</i> Warburton	---; 143, 144	Toumanoff	1944
<i>aculeata</i> Lavorra	---; 70	Warburton	1925
	---; 143°	Strickland	1939
<i>ambigua</i> Neumann	---; 162	Yakimoff	1922
	---; 345	Yakimoff	1917
<i>angorensis</i> Schulze & Schlottke	---; 317	Schulze & Schlottke	1927
<i>bequaerti</i> Hoogstraal	---; 332	Hoogstraal	1956
<i>binneeari</i> Warburton	---; 143	Toumanoff	1944
<i>birmaniae</i> Supino	---; 31, 143	Schulze	1935
	---; 59, 76, 77, 145, 149, 158	Hsiao	1945
	---; 144	Toumanoff	1944
<i>bispinosa</i> Neumann	---; 11, 59, 70, 76, 77, 144, 145, 146, 158, 190, 337	Anastos	1950
	Probable vector of tropical typhus fever; 143, 149	Toumanoff	1944
	---; 143°	Roy & Brown	1954
	---; 151	Patton	1920
	Possible vector of "Q" fever; 168°	Barnett & Toschka	1951
	---; 256°	Hsiao	1948
	---; 256	Hsiao	1945
	---; 280	Krijgeman & Ponto	1931

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>bispinosa</i>			
<i>neumanni</i>	---; 294	Pospelova-Schtröm	1940
<i>Pospelova-Schtröm</i>			
<i>bispinosa</i>	---; 70	Warburton	1925
<i>intermedia</i>			
<i>Warburton & Nuttall</i>	---; 143	Sen	1938
<i>calvus</i>	---; 145	Toumanoff	1944
<i>Nuttall & Warburton</i>			
<i>campanulata</i>	---; 76, 158, 353	Hsiao	1945
<i>Warburton</i>	---; 143	Sen	1938
	Experimentally infected with <i>Trypanosoma</i> and <i>Leishmania</i> ; 151	Brumpt	1938
	---; 168	Barnett & Toshioka	1951
<i>campanulata</i>			
<i>hoepliana</i>	---; 76	Hsiao	1945
<i>Schulze</i>			
<i>caucasica</i>	---; 150, 162, 166, 256, 303, 345	Anastos	1957
<i>Olenev</i>			
<i>centropi</i>	---; 59, 190, 242	Kohls	1950
<i>Kohls</i>			
<i>cholodkovskii</i>	---; 28	Pavlovskii & Pomerantzev	1934
<i>Olenev</i>			
	---; 118	Matikashvili	1932
	---; 150	Delpy	1938
	---; 256	Zolotarev	1934
<i>choprai</i>	---; 143	Toumanoff	1944
<i>Sharif</i>			
<i>cinnabarina</i>	---; 154	Buxton	1924
<i>Koch</i>			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>cinnabarina</i>	---; 28	Pavlovskii & Pomerantzev	1934
<i>punotata</i>			
<i>Canastrini & Panzago</i>	---; 35	Yakimoff et al.	1932
	---; 143	Sharif	1938
	---; 150	Delpy	1938
	---; 151	Khayyat & Gilder	1947
	---; 162	Galuso et al.	1944
	---; 256	Sassuchin & Tiflow	1933
	---; 317	Muttall	1916
<i>concinna</i>			
Koch	---; 31, 150, 158, 168 (Forest zones). ---; 35, 118, 162, 166, 256, 345 (Forest zones, March-Sept.)	Anastos	1957
	March-Aug.; 168, 194**	Pavlovskii	1947
	---; 256**	Karpov et al.	1960
	---; 256*	Pletzity	1947
<i>concinna</i>			
<i>kochi</i>	---; 162, 256	Yakimoff	1917
Neumann			
<i>cornigera</i>			
Neumann	---; 59, 77, 143, 145, 146, 190, 235, 280, 337	Anastos	1950
	April; 144. ---; 149	Larrousse	1925
<i>cornigera</i>			
<i>anomala</i>	---; 143	Sen	1938
Warburton	---; 144, 145, 190	Toumanoff	1944
<i>cornigera</i>			
<i>taivana</i>	---; 77	Sugimoto	1936
Sugimoto			
<i>cuspidata</i>			
Warburton	---; 70	Toumanoff	1944
<i>dentipalpis</i>			
Warburton & Muttall	---; 144	Toumanoff	1944
<i>doenitsi</i>			
Warburton & Muttall	---; 190, 280	Kohls	1950a
<i>excoecaria</i>			
Ogura & Takada	---; 160	Barnett & Toshioka	1951

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i> <i>flava</i> Neumann	---; 77, 158 ---; 143° ---; 151 ---; 168 ---; 345	Toumanoff Sen Patton Barnett & Toshioka Yakimoff	1944 1938 1920 1951 1917
<i>formosensis</i> Neumann	---; 59, 144 April; 77	Toumanoff Neumann	1944 1913
<i>genevreyi</i> Toumanoff	---; 144	Toumanoff	1944
<i>heinrichi</i> Schulze	---; 59°	Schulze	1939
<i>hirudo</i> Koch	---; 256	Yakimoff	1917
<i>hoogstraali</i> Kohls	---; 242	Kohls	1950
<i>howletti</i> Warburton	---; 143	Toumanoff	1944
<i>hylobatis</i> Schulze	---; 149	Anastos	1950
<i>hystericis</i> Supino	---; 59°, 70, 76, 77, 143, 144, 145, 190, 337 ---; 59, 146 April; 149 July; 149	Anastos Schulze Warburton Warburton	1950 1935 1926a 1926b
<i>iberica</i> (Jordan)	---; 345	Zakharov	1926
<i>inermis</i> Birula	---; 28, 35, 118, 150, 162, 166, 207, 256. Sept.-April; 345	Anastos	1957
<i>japonica</i> Warburton	---; 76, 158 ---; 256	Neiuc Grusdeva	1943 1943

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>japonica</i>	---; 76, 158, 168, 256	Anastos	1957
<i>douglasi</i>	---; 294	Pospelova- Schtröm	1940
Nuttall & Warburton			
<i>jezoensis</i>	---; 158	Ogura & Takada	1927
Ogura & Takada			
<i>kinnarei</i>	---; 144	Toumanoff	1944
Warburton			
<i>koningbergeri</i>	---; 145, 146, 149	Anastos	1950
Nuttall & Warburton			
<i>lagrangei</i>	April; 144	Larrousse	1925
Larrousse			
<i>leachi</i>	---; 143	Sen	1938
Audouin			
	---; 144	Toumanoff	1944
	---; 145, 146, 149	Farner	1943
	Apr.; 149	Warburton	1926a
	May; 149	Warburton	1926b
	---; 190	Fielding	1926
	---; 251	King	1926
	---; 256	Olenev	1928
	---; 342	Bodenheimer	1937
<i>leachi</i> var. <i>indica</i>	Experimental transmission of fever; 143	Browning & Kalra	1948
Warburton			
	---; 144	Toumanoff	1944
<i>leachii</i>	---; 332 (Vector of <i>Rickettsia conorii</i>	Hoogstraal	1954
<i>leachii</i>	and <i>Coxiella burnetii</i> and experimentally		
(Audouin)	infected with <i>Rickettsia rickettsii</i>)		
<i>leachii</i>	---; 332	Hoogstraal	1954
<i>muhomi</i>			
Santos Dias			
<i>lomuri</i>	---; 149	Hoogstraal & Theiler	1959
Schulze			
<i>leporis</i>	---; 345	Takimoff	1917
(Packard)			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>menui</i> Toumanoff	---; 144	Toumanoff	1944
<i>meenardi</i> Toumanoff	---; 144	Toumanoff	1944
<i>minuta</i> Kohls	---; 70	Kohls	1950a
<i>mjobergi</i> Warburton	---; 145	Warburton	1926
<i>montgomeryi</i> Nuttall	---; 143 ^o	Strickland	1939
	---; 143	Sen	1938
<i>neumanni</i> Donitz	---; 70, 76, 158, 256	Hsiao	1946
	---; 168	Barnett & Toshioka	1951
<i>nishiyamae</i> Sugimoto	---; 77 ^o	Sugimoto	1935
	---; 77	Sugimoto	1936
<i>novae-guineae</i> Krijgsman & Pont ⁶	---; 144	Toumanoff	1944
<i>numidiana</i> Neumann	---; 162	Sassachin	1933
	---; 256	Sassachin & Tiflow	1933
	---; 326	Olenov	1930
<i>numidiana</i> <i>turanica</i> Pospelova- Schtrom	---; 31, 150, 162, 166, 256, 303, 318, 326, 345	Anastas	1957
	---; 294	Pospelova- Schtrom	1940
<i>obesa</i> Larrousse	February; 144	Larrousse	1923
<i>otophila</i> Schulze	---; 28, 35, 118, 256, 321, 345, 350	Anastas	1957
	---; 151, 159, 342	Hoogstraal & Kaiser	1960
	---; 317	Vogel	1927
<i>palauensis</i> Kohls	---; 242	Kohls	1950

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES: DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>papuana</i>	---; 144, 145, 146, 147, 149, 190	Anastos	1950
Thorell	---; 168	Barnett & Toshicks	1951
	---; 242	Kohls	1950
	---; 345	Yakimoff	1917
<i>parva</i>	---; 70, 143	Schulze	1933
Neumann			
<i>pavlovskii</i>	---; 294	Pospelova-Schtröm	1940
Pospelova-Schtröm	---; 303	Anastos	1957
<i>punctata</i>	---; 28, 35, 118, 150, 162, 166, 256, 303, 321, 326	Anastos	1957
Canestrini & Panzago	---; 342	Bodenheimer	1937
	---; 345	Yakimoff	1917
<i>reneschi</i>	Mountain lake at 1200 m. elevation, mountain rainforest with sparse under-brush; 146	Schulze	1936
Schulze			
<i>roubaudi</i>	---; 144	Toumanoff	1944
Toumanoff			
<i>rusae</i>	---; 242	Kohls	1950
Kohls			
<i>sciuei</i>	---; 242	Kohls	1950
Kohls			
<i>sewelli</i>	---; 235	Toumanoff	1944
Sharif			
<i>spinigera</i>	---; 70	Herberton	1925
Neumann	---; 143	San	1938
	---; 144	Toumanoff	1944
<i>subdacta</i>	---; 28, 35, 76, 118, 143, 150, 162, 256, 303, 326, 342, 343	Anastos	1957
Canestrini & Panzago			
<i>sundrai</i>	---; 143	Toumanoff	1944
Sharif			
<i>taxopei</i>	---; 147	Anastos	1950
Herberton			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYLISALIS</i>			
<i>traguli</i> Oudemans	---; 146, 190	Anastos	1950
<i>trispinosa</i> Toumanoff	---; 144	Toumanoff	1944
<i>turturis</i> Nuttall & Warburton	---; 70 ---; 142	Toumanoff Sen	1944 1938
<i>turturis</i> <i>lalipunctata</i> Toumanoff	---; 144	Toumanoff	1944
<i>vidua</i> Warburton & Nuttall	---; 190	Toumanoff	1944
<i>warburtoni</i> Nuttall	---; 35, 118, 166, 256, 345 ---; 76, 77, 158	Anastos Hsiao	1957 1945
<i>wellingtoni</i> Nuttall & Warburton	---; 11, 59, 143, 144, 145, 146, 149, 190, 277, 337	Anastos	1950
<i>yeri</i> Toumanoff	---; 144	Toumanoff	1944
<i>HYALOMMA</i> <i>aegyptium</i> (Linnaeus)	---; 3, 28, 35, 118, 150, 162, 256, 302, 303, 317, 318, 326, 345, 350 ---; 70 ---; 76 Common, possible vector of typhus; 143 Jan.-March; 143 ---; 143° ---; 146, 353 ---; 151 ---; 154, 159 ---; 168 ---; 235 ---; 251 ---; 317°, 342 ---; 321 Desert, less tolerant towards low humidity; 342°	Anastos Hutson Howard Mehta Sharif Roy & Brown Hsiao Patton Buxton Barnett & Toshioka Sharif King Hoogstraal Yakimoff Bodenheimer	1957 1921 1908 1937 1930s 1954 1945 1920 1924 1951 1938 1926 1956 1917 1934

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>aegyptium</i>			
<i>aegyptium</i> Linnaeus	---; 162, 318, 326	Yakimoff	1917
<i>aegyptium</i> <i>dromedarii</i> Koch	---; 143, 235	Sharif	1938
	---; 162, 326	Yakimoff	1917
	---; 345	Yakimoff	1922
<i>aegyptium</i> <i>ferosodini</i> Sharif	---; 143	Sen	1938
<i>aegyptium</i> <i>isaaci</i> Sharif	---; 143	Sen	1938
<i>aegyptium</i> <i>mesopotamicum</i> Schulze	---; 151	Schulze	1919
<i>amurensis</i> Schulze	---; 256	Anonymous	1944a
<i>anatolicum</i> Koch	---; 35	Kurchatov	1941
	---; 150, 256, 318, 326	Pomerantzev	1946
	Mar.-Sept.; 162	Galuzo	1944
	---; 303	Serdiukova	1946
	---; 342°	Bodenheimer	1937
	---; 350	Olenev	1931
<i>anatolicum</i> <i>excavatum</i> Koch	---; 150, 162, 318	Pomerantzev	1946
	---; 256	Pervomaiskii	1949
<i>asiaticum</i> Schulze & Schlottke	---; 162°, 318°, 326	Pomerantzev	1946
	---; 256	Markov et al.	1948
	---; 303	Serdiukova	1946a
<i>cinnabarinum</i> <i>punctatum</i> Canestrini and Fanzago	---; 342	Smith	1931
<i>delpyi</i> Schulze & Gossel	---; 150	Schulze	1936b

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i> <i>detritum</i> Schulze	Saline, marshy grasslands and pasture- lands; 28. ---; 31, 76, 143, 150. Oct., moist meadows, water side vegetations or under grasses, Feb.-Sept.; 162. ---; 168, 194. Forest meadows and open fields, common; 256. ---; 294, 302. Common in irrigated valleys; 303. ---; 317, 321. Possible vector of Uzbekistan hemorrhagic fever, natural reservoir of <i>Coxiella</i> <i>burnetii</i> ; 326. ---; 340, 342. Deserts and steppes; 345. ---; 349, 350, 353. (Harbors <i>Pasteurella pestis</i>).	Hoogstraal	1956
	---; 35, 118, 162°, 318, 354	Anastos	1957
	---; 154	Feldman- Muehsam	1948
<i>detritum</i> <i>albipictum</i> Schulze	---; 76	Schulze	1930 a
	---; 194	Hsiao	1946
<i>detritum</i> <i>damascenium</i> Schulze & Schlottke	---; 302	Schulze	1930 a
<i>detritum</i> <i>perstrigatum</i> Schulze	---; 76	Hsiao	1945
<i>detritum</i> <i>rubrum</i> Schulze & Olenev	---; 28	Pomerantzev	1934
	---; 35	Yakimoff et al.	1932
	---; 162	Schulze	1930 a
	---; 303	Galuzo & Bespalov	1935
	Mar.-July; 326	Galuzo	1935
<i>dromedarii</i> Koch	---; 2, 3, 28, 31, 76, 143, 144, 150, 159, 235, 256°, 270, 294, 303, 317, 318, 326, 340, 342. April-Oct.; 162. Mountain areas at 7000 feet altitude, attracted to man; 332. Deserts and semi-deserts; 345 (Host and vector of <i>Coxiella burnetii</i>)	Hoogstraal	1956
	---; 35, 166, 256, 302, 353	Anastos	1957
	Experimentally infected with <i>Trypanosoma</i> , <i>Crithidia</i> , <i>Leishmania</i> parasite; 151	Brumpt	1938
	---; 342°	Bodenheimer	1937

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HIALOMMA</i>			
<i>dromedarii</i>	---; 28	Galuzo	1934
<i>asiaticum</i>			
Schulze & Schlottke	---; 162	Olenev	1930
	---; 318	Vlasov	1932
<i>dromedarii</i>			
<i>indosinensis</i>	---; 144	Toumanoff	1944
Toumanoff			
<i>excavatum</i>			
Koch	---; 2, 3, 25, 143, 150, 151°, 174, 256, 270, 302, 313, 342, 349, 350. In pastures, at 6500 feet and higher; 28. Transovarial transmission of Japanese encephalitis and Russian encephalitis; 293. Feb.-Nov.; 303. Common on steppes, at 6500 feet elevation and higher; 317°. Naturally infected with <i>Coxiella burnetii</i> ; 326°. At 6500 feet elevation and higher; 332°. Deserts and semi-deserts and steppe formations; 345	Hoogstraal	1956
	---; 162, 318. All year, peak May-July, possible vector of Haemorrhagic fever; 326. March-Oct.; 345	Anastos	1957
<i>hussaini</i>			
Sharif	Jan.; 143	Sharif	1930
	---; 349	Hoogstraal	1956
<i>hussaini</i>			
var. <i>brevipunctata</i>	---; 143, 366	Sharif	1938
Sharif			
<i>impeltatum</i>			
Schulze & Schlottke	---; 25, 150, 151, 317, 332, 342	Hoogstraal	1956
<i>impressum</i>			
Koch	---; 342°	Bodenheimer	1937
	---; 342	Adler & Feldman-Muehsam	1948
<i>kozlovi</i>			
Olenev	---; 256	Anonymous	1945
	---; 353	Hsiao	1945
<i>kumari</i>			
Sharif	Feb.; 143	Sharif	1930
	---; 235	Sen	1938

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALUMMA</i> <i>marginatum</i> Koch	In semi-deserts and at altitudes of 6500 feet and over; 28. ---; 143, 144, 150, 151, 159, 174. Forest, March-Sept.; 256*; ---; 294, 302, 317, 332, 342. Highlands, forest zones, in desert and steppe formations; 345 (Naturally infected with <i>Coxiella brunetii</i>)	Hoogstraal	1956
	---; 35	Yakimoff et al.	1932
	---; 118	Matikashvili	1932
	---; 162	Tzelishcheva	1940
	Steppe, mountain forest; 256	Korshunova & Plontkovskaya	1949
	---; 321, 350	Pomerantzev	1946
	---; 342°	Bodenheimer	1937
<i>marginatum</i> <i>bucuense</i> Schulze	---; 35	Olenev	1935
<i>marginatum</i> <i>balkanicum</i> Schulze & Schlottke	---; 256, 350	Olenev	1931
<i>marginatum</i> <i>impressum</i> Koch	---; 162, 256	Pomerantzev	1946
<i>marginatum</i> <i>olenevi</i> Schulze & Schlottke	---; 162, 345	Olenev	1931
<i>marginatum</i> <i>turanicum</i> (Pomerantzev)	---; 150, 162	Pomerantzev	1946
<i>pavlovskii</i> Schulze & Schlottke	---; 345	Olenev	1931
<i>pusillum</i> Schulze	---; 2	Bequaert	1930
	Naturally and experimentally infected with <i>Trypanosoma</i> , <i>Crithidia</i> , <i>Leishmania</i> , Oct.; 151	Brumpt	1938
<i>pusillum</i> <i>alexandrinum</i> Schulze	---; 317	Vogel	1927

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA rhipicephalooides</i> Neumann	---; 162, 345 ---; 342	Yakimoff Schulze	1922 1919
<i>rufipes</i> Koch	---; 162, 256. Mountain pastures; 303. ---; 317, 332, 342. Deserts; 345	Hoogstraal	1956
<i>swigae</i> (Gervais)	---; 28, 35, 118, 150, 166, 256, 321, 326, 350. June-Aug.; 162. Mar.-Nov.; 345 ---; 154	Anastos	1957
	Aug.; 303	Feldman- Muehsam	1948
	---; 342°	Galuzo	1935
	---; 342	Bodenheimer	1937
		Adler & Feldman- Muehsam	1948
<i>swigae</i> <i>armeniorum</i> Schulze	---; 28 ---; 162	Lototzkii & Popov Olenev	1934 1930
<i>schulzei</i> Olenev	---; 3, 151, 342 Jan., May; 150 ---; 159 ---; 342°	Hoogstraal Anastos Schulze Bodenheimer	1956 1957 1936 1937
<i>scupense</i> Schulze	---; 162, 254, 321 ---; 345	Pomerantzev Markov et al.	1946 1948
<i>steineri</i> Schulze & Gossel	---; 317	Schulze	1936b
<i>syriacum</i> Koch	---; 154 ---; 162, 326, 345 Steppes; 256, 317 ---; 342	Buxton Yakimoff Vogel Smith	1924 1917 1927 1931
<i>trivacatum</i> Koch	---; 332 (Vector of Tick paralysis and <i>Coxiella burnetii</i>)	Hoogstraal	1956
<i>tunescium</i> Schulze & Schlottke	---; 342°	Bodenheimer	1937

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA turanicum</i> Pomerantzev	---; 3, 31, 150. In meadows, semi-deserts, low areas of fields, at the base of hills, on mountain slopes to the wooded belts, March-May; 162, 256		1956
<i>turkmenense</i> Olenev	---; 256	Markov et al.	1948
<i>uralense</i> Schulze & Schlottke	Jan.-May; 162, 256	Sassuchin	1933
<i>verae</i> Olenev	---; 256	Anonymous	1945
	---; 353	Hsiao	1945
<i>volgense</i> Schulze & Schlottke	---; 162	Sassuchin	1935
	Experimentally infected with plague; 256	Borzenkov & Donskov	1933
	---; 321	Pogorely	1936
<i>watckenaerii</i> Gervais	---; 190	Bequaert	1933
<i>yakimovi</i> <i>persianum</i> Olenev	---; 318	Olenev	1931
<i>INDOCENTOR auratus</i> Supino	Common; 59°. ---; 146	Schulze	1939
	---; 59, 143, 149	Schulze	1933a
<i>auratus</i> <i>sumatranaus</i> Schulze	---; 149	Schulze	1939
<i>bellulus</i> Schulze	---; 77	Schulze	1935
<i>compactus</i> Neumann	---; 143, 145, 146	Schulze	1933a
<i>compactus</i> <i>compactus</i> Neumann	---; 145	Schulze	1933a
<i>compactus</i> <i>tricuspidis</i> Schulze	---; 242	Kohls	1950
<i>confraetus</i> Schulze	---; 146	Schulze	1933a
<i>steini</i> <i>leviculus</i> Schulze	---; 146, 149	Schulze	1933a

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>acuminatus</i> Neumann	---; 168	Barnett & Toshioka	1951
<i>acutitarsus</i> (Karch)	---; 31° Apr.; 59°. ---; 76, 77, 143 (On man). ---; 158	Sharif Schulze	1938 1939
	---; 59 (On man)	Heiao	1945
	---; 76	Sen	1938
	---; 143°, 158°	Schulze	1935
<i>angulatus</i> Kishida	---; 76	Heiao	1945
	---; 170	Anastos	1957
	---; 194	Anonymous	1946
<i>angustus</i> Neumann	---; 256	Anastos	1957
<i>apronophorus</i> Schulze	Apr.-Oct.; 162 Forest; 256	Golov Karpov et al.	1933 1960
<i>arboricola</i> <i>bogatschevi</i> Kirschenblatt	August; 345	Anastos	1957
<i>arcticus</i> Osborn	---; 47	Yakimoff	1922
	---; 256	Yakimoff	1917
<i>areolaris</i> Olenev	---; 101, 256	Olenev	1939
<i>arenicola</i> Eichwald	---; 256 ---; 354	Yakimoff	1917 1922
<i>autumnalis</i> Leach	---; 31, 162, 353 ---; 194 ---; 207, 321 Naturally infected with plague; 256	Heiao Heiao Anastos Pavlovskii	1945 1946 1957 1931a
<i>berlesii</i> Birula	---; 256, 303 Rivershore; 294	Anastos Yakimoff	1957 1917
<i>birulai</i> Yakimoff, Saikovich & Vasilevskaya	---; 256	Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>brunneus</i> Koch	---; 150, 158, 321	Nuttall	1916
<i>canisuga</i> Johnston	---; 150	Nuttall	1916
	---; 256	Anastos	1957
	---; 342	Bodenheimer	1937
<i>cytalonensis</i> Kohls	---; 70	Kohls	1950a
<i>cordiger</i> Neumann	---; 145, 147	Farner	1943
	---; 337	Toumanoff	1944
<i>coreensis</i> Kishida	---; 168	Barnett & Toshioka	1951
<i>corniger</i> Kol.	---; 317	Stefko	1917
	---; 345	Yakimoff	1922
<i>orenularus</i> Koch	---; 35, 118, 166, 207, 256, 303, 321, 345, 353	Anastos	1957
	Xerophilous steppe; 256	Dubinin	1948
<i>diversicoxalis</i> Kirschenblatt	In rodent nest; 345	Kirschenblatt	1935
<i>elephantinus</i> Fabricius	---; 190	Bequaert	1933
<i>frequens</i> Ogura & Takada	---; 158°	Ogura & Takada	1927
	---; 158	Schulze	1930
<i>frontalis</i> (Panzer)	---; 118, 256, 321, 345	Anastos	1957
<i>gigas</i> Warburton	In jungle, 7000-8000 feet elevation; 76°. ---; 143	Nuttall	1916
<i>granulatus</i> Supino	Mar.; 59	Schulze	1939
	---; 143, 145, 146, 242, 337	Anastos	1950
	Oct.; 149	Warburton	1926b
<i>hexagonus</i> Leach	---; 77	Sugimoto	1936
	---; 256	Tikhomerova & Nikanorov	1930

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i> <i>hirsutus</i> Birula	---; 256	Yakimoff	1917
<i>holocyclus</i> Neumann	---; 143° ---; 143 ---; 147 ---; 337	Fielding Sharif Krijgman & Ponto Toumanoff	1926 1938 1931 1944
<i>japonensis</i> Neumann	Jungle, 6000-8000 feet elevation; 59. ---; 76. 5400-7000 feet elevation; 158 ---; 143	Nuttall	1916
<i>kasakstani</i> Olenev & Sorokoumov	---; 162, 166	Anastos	1957
<i>kempi</i> Nuttall	---; 143	Nuttall	1916
<i>laguri</i> <i>armeniacus</i> Pomerantzev & Kirschenblatt	---; 28	Anastos	1957
<i>laguri</i> <i>colchicus</i> Pomerantzev	---; 256	Pomerantzev	1946
<i>laguri</i> <i>laguri</i> Olenev	---; 35. Suspected vector of tularemia; 162, 256, 321	Anastos	1957
<i>mindanensis</i> Kohls	---; 242	Kohls	1950
<i>muntiaci</i> Schulze	April; 59	Schulze	1939
<i>nitens</i> Neumann	---; 78	Toumanoff	1944
<i>nuttalianus</i> Schulze	---; 76	Heiso	1945
<i>oocultus</i> Pomerantzev	---; 318	Anastos	1957
<i>ovatus</i> Neumann	---; 158, 256, 345	Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES pavlovskii</i> Pomerantzev	---; 256	Anastos	1957
<i>pereulcatus</i> Schulze	---; 158°, 194*, 256° ---; 162, 166, 170 Mixed forests, steppes; 256. ---; 294 Forest zones; 256 Has been demonstrated as the vector of the tick-borne encephalitis; 256 Apr.-Dec., peak May-June; 256° June and July; 256	Kitaoka Anastos Schulze Pletszity Hsiao Karpov et al. Chumakov	1950 1957 1936 1947 1946 1960 1941
	---; 256*	Hsiao	1945
	---; 256°	Anonymous	1944a
<i>pereulcatus</i> <i>diversepalpis</i> Schulze	---; 256	Schulze	1930
<i>pereulcatus</i> <i>pereulcatus</i> Schulze	---; 256	Schulze	1930
<i>petauristae</i> Warburton	---; 70	Thompson	1938
<i>plumbeus</i> Leach	---; 162	Anastos	1957
<i>pomerantzevi</i> Serdiukova	---; 256	Anastos	1957
<i>praeonatus</i> Schulze	---; 146	Anastos	1950
<i>putus</i> (Wickard-Cambridge)	---; 77 ---; 256°	Muttall Pavlovskii	1916 1947
<i>radfordia</i> Kohls	---; 143	Kohls	1950
<i>redikorzevi</i> Olenev	---; 35, 118, 256, 303, 345 ---; 342	Anastos Olenev	1957 1931
<i>redikorzevi</i> <i>emberisae</i> Pomerantzev	---; 35, 303	Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i> <i>redikorsevi</i> <i>laguri</i> Olenev	---; 162	Olenev	1930
<i>redikorsevi</i> var. <i>lagurae</i> Olenev	---; 256	Sassuchin & Tiflow	1933
<i>reduvius</i> (Linnaeus)	---; 101, 162, 180, 256, 345	Yakimoff	1922
	---; 32	Yakimoff	1917
<i>ricinoides</i> Nuttall	---; 76	Nuttall	1916
<i>ricinus</i> (Linnaeus)	---; 25*, 31	Toumanoff	1944
	---; 28	Lotozkii & Popov	1934
	---; 35, 76, 118, 161, 162, 173, 180, 207, 303, 321, 350	Anastos	1957
	---; 77	Sugimoto	1936
	---; 101, 294	Schulze	1936
	---; 143	Sharif.	1938
	---; 158, 235, 256, 345	Nuttall	1916
	---; 158°	Ogura & Takada	1927
	---; 162°	Pavlovskii & Stein	1927
	Reportedly a vector of Russian spring-summer encephalitis; 168°	Barnett & Toshioka	1951
	---; 194	Heiso	1946
	Infected with or actually transmitting Russian spring-summer encephalitis, louping-ill virus and <i>Pasteurella tularensis</i> ; 256*	Thompson	1964
	Reportedly infected with encephalitis; 256	Chumakov	1941
	---; 256°	Olenev	1929a
	Possibly vector of tick paralysis; 317	Anonymous	1944
	---; 326	Olenev	1930
	---; 342	Bodenheimer	1937

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>ricinus</i>			
<i>gibbosus</i>	---; 317	Nuttall	1916
Nuttall			
<i>ricinus</i>	---; 158	Toumanoff	1944
<i>ovatus</i>			
Neumann	---; 194, 256	Olenev	1929a
<i>semenovi</i>	---; 162	Anastos	1957
Olenev			
<i>---; 256</i>		Olenev	1930
<i>shinchikvensis</i>	---; 77	Sugimoto	1937
Sugimoto			
<i>signatus</i>	---; 158, 256	Anastos	1957
Birula			
<i>simplex</i>	---; 76	Hsiao	1945
Neumann			
<i>simplex</i>	---; 76, 158, 342	Hoogstraal	1956
<i>simplex</i>			
Neumann			
<i>spinicoxalis</i>	---; 146	Anastos	1950
Neumann			
<i>May</i>	149	Warburton	1926b
<i>---; 337</i>		Toumanoff	1944
<i>---; 345</i>		Yakimoff	1917
<i>taiwanensis</i>	---; 77	Sugimoto	1936
Sugimoto			
<i>theodori</i>	---; 342°	Bodenheimer	1937
Warburton			
<i>trianguliceps</i>	---; 118, 161, 256, 321, 345	Anastos	1957
Birula			
<i>---; 294</i>		Yakimoff	1917
<i>urius</i>	---; 118, 170, 256	Anastos	1957
White			
<i>vespertilionis</i>	---; 28, 150, 256, 318, 321	Anastos	1957
Koch			
<i>---; 143</i>		Roy & Brown	1957
<i>---; 158, 317, 342</i>		Hoogstraal	1956
<i>surinamensis</i>	---; 190, 242	Kohls	1950
Kohls			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MARGAROPUS</i> <i>annulatus</i> (Say)	---; 77	Neumann	1913
	---; 317	Stefko	1917
	---; 345	Yakimoff	1917
<i>annulatus</i> var. <i>australis</i> (Fuller)	---; 77	Sugimoto	1936
	Apr.; 144	Larrousse	1925
	---; 145, 149, 280	Howard	1908
<i>annulatus</i> <i>calcaratus</i> (Birula)	---; 162, 318, 326, 345	Yakimoff	1917
	---; 256	Yakimoff	1922
<i>australis</i> Fuller	---; 242	Banks	1919
<i>NOSOMMA</i> <i>monstrosum</i> (Nuttall & Warburton)	---; 143, 366	Sharif	1938
	---; 144	Toumanoff	1944
	---; 235	Sen	1938
<i>ORNITHODOROS</i> <i>asperus</i> Warburton	Nymph found in rodent burrows, experimental transmission of <i>Spirochesta</i> <i>babylonensis</i> ; 151	Brumpt	1939
	---; 151*	Weyer & Zumpt	1952
<i>batusis</i> Hi et	---; 190	Kohls	1950
<i>canestrinii</i> Birula	---; 35, 150, 162, 345	Anastre	1957
	---; 317	Pavlovskii	1948
<i>capestrini</i> Laboulbeno & Megnin	---; 345	Yakimoff	1917
<i>cholodkowskii</i> Pavlovskii	---; 31, 162, 318*, 326	Anastre	1957
<i>coniceps</i> (Canestrini)	---; 39. In wall crevices; 342*	Theodor	1932
	---; 162	Olenov	1930
	---; 236	Hoogstraal	1956
	Hill country; 342	Bodenheimer	1934
<i>acriacaeus</i> Koch	---; 162*	Pavlovskii & Stein	1927

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS crossi</i>	----; 143 In houses, stables, Dec.-Feb.; 235* ^o	Cross & Patel Rao & Kaira	1922 1949
<i>erraticus</i> Lucas	----; 150 ----; 317	Hoogstraal Leeson	1956 1956
<i>lahorensis</i> Neumann	----; 28, 31, 35, 76, 150 ^o , 166, 256, 318, 345, 350. Dec.-Mar.; 162. Dec.-Feb.; 303. Dec.-Apr.; 326 ----; 143, 235, 342. Possible carrier of relapsing fever; 317	Anastos Roy & Brown	1957 1954
	In houses, stables; 150 ----; 154. May; 159 ----; 162*	Delpy Theodor Andreev	1947 1932 1944
	In cracks of walls and beams, May, July-Sept.; 317 Possible vector of tick fever and tularemia; 317	Vogel Anonymous	1926 1944
	Experimentally infected with tularemia; 317 Experimentally infected with Q. fever; 317	Server, Kamil & Sait Bilal Payzin	1938 1948
	Dec.-Feb.; 326	Sofiev	1929
<i>magnini</i> (Duges)	----; 77 ----; 143	Sugimoto Roy & Brown	1936a 1954
<i>miana</i> Starobynski	----; 150*	Starobynski	1922
<i>moubata</i> (Murray)	----; 76 ----; 162 ^o ----; 256	Brumpt Pavlovskii & Stein Mironov et al.	1936 1927 1940
<i>nereensis</i> Pavlovskii	----; 256 Shallow burrows and crevices of clay stone huts, upturned stones, experimental transmission of sprochaetes; 318* ^o Suspected vector of relapsing fever; 318	Compano-Rouget Pavlovskii	1959 1941
		Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS papillipes</i> Birula	In houses; 31. ---; 143, 150, 162, 235, 302, 326, 345. In caves; 166, 342 ---; 76	Roy & Brown Hoeppli & Feng	1954 1933
	Experimentally infected with typhus; 150°, 317	Pavlovskii	1948
	In caves, naturally and experimentally infected with relapsing fever; 154°* ---; 159°*	Adler et al. Anonymous	1937 1944b
	In houses; 162°*	Pavlovskii	1930
	---; 166	Pavlovskii	1931
	---; 302*	Anonymous	1944
	---; 303°	Sosnina	1949
	In caves; 303	Chodukin & Sofief	1931
	In grotto-like cave, shallow burrows and crevices of clay, stone huts and upturned stones; 318*	Pavlovskii	1941
	---; 326	Sofief	1929
<i>salahi</i> Hoogstraal	---; 154	Leeson	1956
	---; 342	Hoogstraal	1956
<i>savignyi</i> Audouin	---; 2, 70, 143, 332, 342 (In sandy soil, corrals, under trees where man and animals rest, well sides, in houses, bites man)	Hoogstraal	1956
	Occasionally bites man; 143°	Roy & Brown	1954
	---; 256°	King	1926
<i>severus</i>	---; 151	Pavlovskii	1948
<i>talajae</i> Guerin & Meneville	---; 150, 162°	Pavlovskii & Stein	1927
	---; 256. On lake shores; 294	Yakimoff	1917
<i>tartakovskyi</i> Olenev	---; 162°. In burrows; 318, 326 (Naturally and experimentally infected with relapsing fever)	Anastas	1957
	---; 256	Sassuchin et al.	1935
	In turtle holes, carrier and vector of spirochetes; 318*	Pavlovskii	1941

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>turtakovskii</i> Olenev (cont.)	Naturally infected with relapsing fever; 326	Sofieff	1941
<i>thulosini</i> (Laboulbene & Meginin)	---; 3, 35, 151, 303, 345°, 354. In houses, winter; 150°. In houses; 162, 326°. In cave and burrows; 318	Anastos	1957
	---; 76	Hoeppli & Feng	1933
	---; 118, 150, 151, 159, 174, 317. Grottos, naturally infected and experimental transmission of <i>Borellia persica</i> ; 154. In houses; 235. In houses, experimentally infected with <i>Spirochaeta</i> ; 294	Davis & Hoogstraal	1956
	In houses, stables; 150	Delpy	1947
	June-Aug.; 162	Skopin	1944
	---; 166*	Naumov & Mezentzeva	1942
	Enters houses; 256	Pospelova & Schtrom	1944
	---; 302*	Sautet	1941
	---; 318*	Pavlovskii	1945
	---; 342	Bodenheimer	1937
	---; 345	Yakimoff	1922
<i>thulosani</i> var. <i>peresepdiensis</i> Delpy	---; 150	Delpy	1947
<i>thulosani</i> <i>thulosani</i> Laboulbene & Meginin	---; 150, 159	Hoogstraal	1956
<i>turicata</i> (Duges)	Experimentally infected with typhus rickettsia; 76	Liu	1944
	---; 162°	Pavlovskii & Stein	1927

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>verrucosus</i> Olenev, Sasuchin & Fenyuk	Naturally infected and experimental transmission of relapsing fever; 35	Popov & Akhundov	1940
	In burrows; 35. In burrows and caves; 162°. ---; 345	Anastos	1957
	---; 256°	Olenev et al.	1934
	---; 345°	Olenev et al.	1934
<i>PALPOBOOPHILUS</i> <i>decoloratus</i> (Koch)	---; 168°	Barnett & Toshioka	1951
<i>minningi</i> Kishida	---; 168	Barnett & Toshioka	1951
<i>RHIPICEPHALUS</i> <i>burea</i> Canestrini & Fanzago	---; 28, 31, 35, 118, 162, 318, 321, 345	Anastos	1957
	---; 150	Roy & Brown	1954
	Mar.-Sept.; 256	Kurchatov	1940
	---; 317	Lestoquard & Ekrem	1931
	---; 342	Bodenheimer	1937
<i>calcaratus</i> Birula	---; 345	Yakimoff	1917
<i>evertsi</i> Neumann	---; 251	King	1926
<i>evertsi</i> <i>evertsi</i> Neumann	---; 332	Hoogstraal	1956
<i>haemaphysaloides</i> Supino	---; 59	Schulze	1939
	---; 70	Warburton	1925
	---; 76°	Heiao	1945
	In houses; 143°. ---; 235	Sen	1938
	Suspected vector of tick typhus fever; 143, 149	Sharif	1938
	Nov.; 143	Sharif	1930a
	---; 144°	Toumanoff	1944
	---; 145, 149	Farner	1943
	---; 146	Schuurmans Stekhoven	1923
	---; 256, 353	Wu Lien Teh	1923

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>haemaphysaloides</i>			
<i>expeditus</i> Neumann	---; 76, 149	Hsiao	1945
<i>haemaphysaloides</i> <i>haemaphysaloides</i> Supino	---; 59, 70, 76, 77, 143, 144, 149	Anastos	1950
<i>haemaphysaloides</i> <i>paulopunctatus</i> Neumann	---; 149	Schulze	1936
<i>haemaphysaloides</i> <i>pilans</i> Schulze	Bamboo woods; 145 ---; 146, 149, 242 ---; 337	Schulze Anastos Kohls	1936 1950 1950
<i>intermedius</i> Neumann	---; 149	Farner	1943
<i>leporis</i> Pomerantzev	---; 326	Pomerantzev	1946
<i>macropis</i> Schulze	---; 2	Schulze	1936
<i>pilans</i> Schulze	Small bamboo forests, June and July; 146	Schulze	1936
<i>pumilio</i> Schulze	---; 294	Zumpt	1939
<i>rossicus</i> Yakimoff & Kohl- Yakimoff	---; 28, 35, 118, 256, 318, 321. June-Aug.; 162. Apr.-Sept.; 345 In dense grassy river edges; 321° May-Sept., seldom on man; 321	Anastos Kulikoff Kolomietz	1957 1935 1936
<i>sanguineus</i> (Latreille)	---; 28, 31, 35, 76, 118, 151, 162, 256, 303, 317, 321, 326. March-Sept.; 345 ---; 59 ---; 70 ---; 76° ---; 77 Possible vector of tick typhus fever; 143 Aug.-Sept.; 143	Anastos Wilcocks Warburton Hsiao Neumann Sharif Sharif	1957 1944 1925 1945 1913 1938 1930a

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i> <i>sanguineus</i> (Latreille) (cont.)	---; 143° Apr.; 144 ---; 144° ---; 145, 146, 147, 149 Experimental transmission of Rocky Mountain Spotted Fever; 146° ---; 150, 174, 270, 280 ---; 154, 159 Experimentally infected with <i>Trypanosoma</i> <i>christophersi</i> , <i>Crithidia</i> , <i>Leishmania</i> parasite; 157 Possible vector of "Q" fever, tularemia, Rocky Mountain spotted fever, and relapsing fever; 168° ---; 190	Strickland Larrousse Toumanoff Anastos Krijgsman & Ponto Howard Euxton Brumpt Barnett & Toshioka Lewthwaite et al. Hsiao Sen Kohls King Pletzity Pomerantzev Povov & Lotoskii Hoogstraal Bodenheimer Zumpt Kurchatow	1939 1925 1944 1950 1931 1908 1924 1936 1951 1935 1946 1938 1950 1926 1947 1946 1932 1956 1937 1939 1940 1956 1939
<i>sanguineus</i> <i>rossicus</i> Yakimoff & Kohl-Yakimova	---; 162, 207 Feb.-Nov.; 256	Zumpt Kurchatow	1939 1940
<i>sanguineus</i> <i>sanguineus</i> (Latreille)	---; 2°, 143, 151, 235, 242, 256, 270, 317°. Mountains and lowlands; 332°, 342 ---; 303, 326, 345	Hoogstraal Zumpt	1956 1939

TABLE 1 - TICKS (conclusion)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS schulzei</i> Olenev	---; 35, 166, 303, 318, 324, 345 May-Aug.; 162° Naturally infected with plague; 256	Anastos Kolpakova Pavlovskii	1957 1931 1931a
<i>simus</i> Koch	---; 145 ---; 162 ---; 317	Howard Yakimoff Stefko	1908 1917 1917
<i>simus simus</i> Koch	---; 76, 326 Mountains; 332	Yakimoff Hoogstraal	1917 1956
<i>turanicus</i> Pomerantzev	---; 150, 162 ---; 345	Pomerantzev Lagereva	1946 1946
<i>UROBOOPHILUS caudatus</i> (Neumann)	---; 76, 158	Hsiao	1945
<i>distans</i> Minning	---; 76, 77, 139, 144	Hsiao	1945
<i>indicus</i> Minning	---; 143	Minning	1936
<i>occidentalis</i> Minning	---; 150	Minning	1936
<i>sharifi</i> Minning	---; 59	Schulze	1939
<i>sinensis</i> Minning	---; 76, 77, 139, 158	Minning	1934

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY TICKS

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>DERMacentor marginatus</i> (Sulzer)	Encephalitis					256
<i>nuttalli</i> Olenev	Atypical typhus					256 (Pletzity, 1947)
	Spotted fever					256
<i>pictus</i> Hermann	Encephalitis					256
<i>silvarum</i> Olenev	Atypical typhus					256
	Tick-borne typhus					353
	Tick-borne encephalitis					
<i>HAEMAPHYSALIS concinna</i> Koch	Tick-borne typhus fever & Tick-borne encephalitis					194
	Atypical typhus					256 (Pletzity, 1947)
	Encephalitis					256
<i>HYALOMMA marginatum</i> Koch	Crimean hemorrhagic fever					256
<i>IXODES persulcatus</i> Schulze	Russian spring-summer encephalitis					158, 194, 256
	Tick-borne encephalitis					256 (Hsiao, 1945)
<i>ricinus</i> (Linnaeus)				Tick paralysis		25
	Russian spring-summer encephalitis					256
<i>ORNITHODOROS asperus</i> Warburton				Relapsing fever		151
<i>crossi</i>				Relapsing fever		235
<i>lahorensis</i> Neumann				Relapsing fever		162

TABLE 2 - TICKS (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>ORNITHODOROS</i> <i>miana</i> Starobynski					Relapsing fever	150
<i>nereensis</i> Pavlovskii					Relapsing fever	318
<i>papillipes</i> Birula					Relapsing fever	154
					Relapsing fever	159
					Relapsing fever	162
					Relapsing fever	304
					Relapsing fever	318
<i>tartakovskyi</i> Olenev					Relapsing fever	318
<i>tholosani</i> Laboulbene & Megnin					Relapsing fever	166
					Relapsing fever	302
					Relapsing fever	318
<i>RHIPICERPHALUS</i> <i>sanguineus</i> (Latreille)	Marseille fever					256

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L. MITES

The entries for mites include a wide variety of species, most of which seldom bite man. For the most part, there are no biological entries. The Trombiculid entries are, of course, for larval stages. Most of the others will be for various stages, but mostly for adults.

There are 134 species or subspecies recorded in the tables.

TABLE 1 - MITES

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ACOMATACARUS australiensis</i> (Hirst)	---; 145 (On man, vector of dermatitis)	Wharton & Fuller	1952
<i>ALEUROBIUS farinae</i> De Geer	---; 77°	Sugimoto	1940
<i>BDELLONYSSUS burea</i> (Berlese)	Naturally infected with Sindbis virus; 143	Shah et al.	1960
<i>CARPOGLYPHUS taiwanensis</i> Sugimoto	---; 77°	Sugimoto	1940
<i>DEMODEX folliculorum</i> Simon	Suspected cause of skin disease; 76	Patton	1926
	---; 256°	Anonymous	1945
	---; 342°	Bodenheimer	1937
<i>DERMANYSSUS muris</i> Hirst	Capable of transmitting plague; 70°	Philip	1923
<i>DERMATOPHAGOIDES saittoi</i> (Sasa)	In sputum of patient with Loeffler's syndrome; 158	Sasa	1950
<i>scherevetskyi</i> Bodganoff	---; 158	Sasa	1951
	---; 256°	Sasa	1950
<i>takeuchii</i> (Sasa)	In urine of patient with liver cirrhosis; 158	Sasa	1950
<i>GLYCIPHAGUS domesticus</i> De Geer	May cause dermatitis; 70	Castellani & Hirst	1912
	---; 77°	Sugimoto	1940
<i>LAELAPS jettmari</i> Vitzthum	---; 158 (Attacks man). Associated with the transmissions of epidemic hemorrhagic fever; 194°	Barnett & Toshioka	1951
<i>LEIOGNATHUS morsitans</i> Hirst	---; 143°	Hirst	1915
<i>LEPTUS akamushi</i> (Brumpt)	Causes severe fever; 158*	Banks	1919

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LEPTUS</i> <i>autumnalis</i> Gudden	---; 76° Produce irritation and vesication; 76*	Feng & Hoepli Patton	1933 1926
<i>LIPONYSSUS</i> <i>bacoti</i> Hirst	May transmit typhus from rat to man; 76 Naturally infected with typhus; 76 Possible vector of typhus; 143° Possible vector of murine typhus; 168° Experimental transmission of enaemic typhus; 194	Liu Liu Mehta Barnett & Toshioka Kodama & Kono	1944 1947 1937 1951 1933
<i>nagayoi</i> Yamada	Experimental transmission of typhus rickettsiae; 76 Abundant in houses in Nov.-Dec.; 77° Enters houses, experimental transmission of plague, may cause dermatitis; 158° Experimental transmission of endemic typhus; 194	Liu Morishita & Omori Yamada Kodama & Kono	1947 1932 1931 1933
<i>MICROTHROMBIDIUM</i> <i>wichmanni</i> (Oudemans)	Bite causes irritation; 147*	Ewing & Hartzell	1918
<i>NEOSCHÖNGASTIA</i> <i>kohlsi</i> (Philip & Woodward)	---; 242°	Philip & Woodward	1946
<i>philippensis</i> (Philip & Woodward)	---; 242°	Philip & Woodward	1946
<i>schuffneri</i> Walch	---; 149°	Womersley & Heaslip	1943
<i>NOTOEDRES</i> <i>cati</i> Hering	---; 321*	Chebotarev	1937
<i>PEDICULOIDES</i> <i>ventricosus</i> (Newport)	---; 70* Causes cutanious eruptions; 76* ---; 256* ---; 317*	Carter et al. Patton Rodionov Anonymous	1944 1926 1940 1944

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIZOGLYPHUS</i> <i>echinopus</i> Fumouze & Robin	---; 256*	Rodionov	1940
<i>parasiticus</i> Dalgetty	---; 70*	Castellani & Hirst	1912
<i>SARCOPTES</i> <i>scabiei</i> (De Geer)	Female burrows into the skin and lays its eggs there, causes secondary infections and eczematous conditions and scabies; 76°*	Patton	1926
	Commonly invades the skin producing "scabies" in man, previously suspected vector of leprosy; 168*	Barnett & Toshioka	1951
	---; 194*	Anonymous	1946
	---; 256°	Anonymous	1945
	---; 342°	Anonymous	1944a
<i>scabiei</i> var. <i>canis</i> Gerlach	---; 342°	Bodenheimer	1937
<i>scabiei</i> var. <i>hominis</i> Hering	---; 342°	Bodenheimer	1937
<i>SCHÖNGASTIA</i> <i>schüffneri</i> (Walch)	---; 149*, 190*	Williams	1944
	---; 190, 337 (On man, vector of dermatitis)	Wharton & Fuller	1952
<i>vandersandei</i> (Oudemans)	---; 337 (On man, vector of dermatitis)	Wharton & Fuller	1952
<i>TROMBICULA</i> <i>acuscotellaris</i> Walch	---; 59, 70, 149, 191, 242 (Host: man)	Wharton & Fuller	1952
	Dec.; 143°	Mehta	1937
	---; 143*	Williams	1944
	---; 143	Mackie & others	1946
	---; 149°	Farner	1943
	Aug.-Jan.; 190°	Womersley & Heaslip	1943
	Rice field; 190°	Gater	1932

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>agamae</i> André	---; 154	Wharton & Fuller	1952
<i>akamushi</i> (Brumpt)	Active during early morning, vector of <i>Rickettsia orientalis</i> , grasslands, prefer river edges or land that is periodically flooded, on the ground or grass stems, flowers and bushes; 59, 70°, 77°, 143°, 144°, 149°, 158°, 168°, 190°, 277	Geigy & Herbig	1955
	Adults on vegetables and organic matter, naturally infected and vector of <i>Tsutsugamushi</i> ; 59*, 77*, 158*, 190*, 242*	Philip	1948
	Carrier of Japanese River fever; 76°, 77°, 149°, 158°	Patton	1926
	---; 76, 77, 145, 168, 242. Silt covered fields on river banks; 158	Roy & Brown	1954
	---; 76*	Williams	1944
	Suspected vector of Japanese River fever or <i>Tsutsugamushi</i> disease, vector of <i>typhus</i> ; 77*, 158*	Womersley & Heaslip	1943
	Carrier of <i>Tsutsugamushi</i> virus; 77°, 158	Hatori	1919
	---; 143*	Mehta	1937
	---; 144, 158	Hsiao	1945
	---; 146*	Gispen	1950
	---; 149*	Williams	1944
	Vector of Japanese River fever; 158*	Mehta	1948
	---; 158*	Philip et al.	1946
	Oct.-Jan., probable vector of <i>Tsutsugamushi</i> ; 190°	Gater	1932
	---; 190	Kingsbury	1930
	---; 242	Philip et al.	1946
<i>akamushi</i> var. <i>deliensis</i> Walch	---; 59, 70, 76, 143, 149, 190, 242 (On man)	Fuller	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>autumnalis</i> (Shaw)	---; 77	Miyashima & Okumura	1919
	---; 158	Hayashi et al.	1926
<i>batui</i> Philip & Traub	---; 190	Womersley	1952
<i>bhimtalensis</i> Womersley	---; 143	Roy & Brown	1954
<i>bodensis</i> (Gunther)	June, Sept.-Oct.; 145	Womersley	1952
	---; 242	Wharton & Fuller	1952
<i>butmensis</i> Ewing	June-July; 59	Ewing	1945
	Sept.-Oct.; 143	Womersley	1952
	---; 235	Wharton & Fuller	1952
<i>burnsi</i> Sasa, Teramura & Kanoh	---; 158	Wharton & Fuller	1952
<i>buxtoni</i> Womersley	---; 143	Womersley	1952
<i>cervulicola</i> Ewing	---; 143	Womersley	1952
<i>coluberina</i> (Radford)	---; 143	Womersley	1952
<i>consueta</i> Womersley	June; 190	Womersley	1952
<i>corvi</i> Hatori	---; 77	Womersley & Heaslip	1943
<i>cuneata</i> (Traub & Evans)	---; 59, 143	Womersley	1952
<i>deliensis</i> Walch	Active during early morning, vector of <i>Rickettsia orientalis</i> , grasslands, prefer river edges or land that is periodically flooded, on the ground or grass stems, flowers and bushes; 59, 70 st , 143 st , 144 st , 149 st , 158 st , 168 st , 190 st , 277	Geigy & Herbig	1955

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA deliensis</i> Walch (cont.)	Common, May-Nov., vector of <i>Tsutsugamushi</i> disease; 59*, 143* (Transmits <i>Rickettsia orientalis</i> to susceptible experimental animals, abundant monsoon season, attaches to man)	Mackie et al.	1946
	Naturally infected with <i>Tsutsugamushi</i> ; 70*, 76*, 145*, 146*, 149*, 191*	Philip	1948
	Common; 70, 143, 145, 146, 190, 235 (Vector of scrub typhus)	Womersley	1952
	Suspected vector of <i>Tsutsugamushi</i> ; 76	Millspaugh & Fuller	1947
	Dump scrub, humus soil, wild rats (<i>Rattus rattus</i>), experimental transmission of scrub typhus, Sept.-Nov.; 143	Browning & Kalra	1948
	Suspected transmitter of tropical typhus; 143, 149	Abdussalam	1939
	All year; 143	Mehta	1937
	---; 143°	Mehta	1948
	Probable vector of a "tsutsugamushi"-like fever; 149	Womersley & Heaslip	1943
	Carrier of <i>Tsutsugamushi</i> ; 158	Lewthwaite et al.	1935
	Jan.-May, July-Dec.; 190	Gater	1932
	---; 190°	Mehta	1948
	---; 190*	Williams	1944
	---; 191	Roy & Brown	1954
	---; 235 (On man)	Wharton & Fuller	1952
	---; 242	Philip et al.	1946
<i>densipiliata</i> Walch	---; 145	Womersley	1952
	---; 149	Womersley & Heaslip	1943
<i>dux</i> Womersley	---; 143, 235	Womersley	1952
<i>fletcheri</i> Womersley & Heaslip	---; 190	Womersley & Heaslip	1943

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>foliacea</i> (Traub & Evans)	Feb.-March; 59	Womersley	1952
<i>fordi</i> Womersley	Common; 59, 143	Womersley	1952
<i>frittsi</i> Wharton	---; 190	Womersley	1952
<i>fuji</i> Kuwato, Berge & Philip	---; 158	Womersley	1952
<i>fujigmo</i> Philip & Fuller	March-April; 59	Philip & Fuller	1950
<i>fulleri</i> (Ewing)	---; 59	Ewing	1945
<i>gallinarum</i> Hatori	---; 77	Sugimoto	1936
<i>gliricolens</i> (Hirst)	---; 143, 242	Womersley	1952
<i>gymnodactyla</i> Ewing	Suspected vector of tropical typhus; 143	Abdussalam	1939
<i>harrisoni</i> Womersley	---; 190	Womersley	1952
<i>hastata</i> Gater	May; 190	Gater	1932
<i>hatorii</i> Womersley & Heaslip	---; 77	Womersley & Heaslip	1943
<i>hexasternalae</i> Vercammen- Grandjean	---; 3	Nadchatram & Mitchell	1965
<i>hirsti</i> Sambon	---; 77, 149, 190, 242 (On man, vector of dermatitis	Wharton & Fuller	1952
	---; 146	Womersley	1952
	All year; 190*	Gater	1932
<i>hirsti</i> form <i>hakei</i> Radford	---; 143	Womersley	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA indica</i>	June-Nov.; 143	Mehta	1937
<i>insolli</i> Philip & Traub	March; 190	Womersley	1952
<i>intermedia</i> Nagayo, Mitamura & Tamiya	---; 143, 158	Womersley	1952
<i>irritans</i> Talice	---; 76	Feng	1933
<i>isshikii</i> Sugimoto	---; 77	Womersley & Heaslip	1943
<i>japonica</i> Kaiwa, Teramura & Kagaya	Sept.-Dec.; 158	Philip & Fuller	1950
<i>jayewickremei</i> Womersley	---; 70	Womersley	1952
<i>jubbulporensis</i> Womersley	---; 143	Womersley	1952
<i>kansalwanensis</i> Womersley	Oct.; 235	Womersley	1952
<i>kashmirensis</i> Womersley	July; 235	Womersley	1952
<i>keukenschrijveri</i> Walch	---; 143 (On man) ---; 149°, 190°	Wharton & Fuller	1952
<i>khurdangensis</i> Womersley	July; 235	Womersley	1952
<i>kitasatoi</i> Fukuzumi & Obata	---; 158	Wharton & Fuller	1952
<i>koomori</i> Sasa & Jameson	---; 158	Nadchartram & Mitchell	1963
<i>kukongensis</i> Chen & Hsu	---; 76	Nadchartram & Mitchell	1963
<i>lanceolata</i> Womersley	---; 59	Womersley	1952
<i>leveri</i> Womersley	March; 190	Womersley	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>longiseta</i> Womersley	---; 59, 143	Womersley	1952
<i>macacus</i> Womersley	---; 143	Womersley	1952
<i>mediocris</i> Berlese	---; 77	Miyashima & Okumura	1919
	---; 146	Hatori	1919
<i>minor</i> Berlese	---; 146	Womersley & Heaslip	1943
<i>minor</i> var. <i>deliensis</i> Walch	---; 149, 190	Womersley & Heaslip	1943
<i>mitamuri</i> Sasa, Teramura & Kanoh	---; 158	Wharton & Fuller	1952
<i>miyajimai</i> Fukuzumi & Obata	---; 158	Wharton & Fuller	1952
<i>miyazakii</i> Sasa, Savada, Kanoh, Hayashi & Kumada	---; 158	Wharton & Fuller	1952
<i>mundu</i> Gater	---; 70 All year; 190	Womersley Gater	1952 1932
<i>muridis</i> Womersley	---; 190	Womersley	1952
<i>nagayoi</i> Sasa, Hayashi, Sato, Miura & Asahina	---; 158	Wharton & Fuller	1952
<i>orientalis</i> Schluger	---; 294	Wharton & Fuller	1952
<i>oudemansi</i> Walch	March, May-Nov.; 143	Mehta	1937
<i>pallida</i> Nagayo, Mitamura & Tamiya	---; 158 ---; 158°	Womersley Wharton & Fuller	1952 1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>palpalis</i>	----; 158	Womersley	1952
Nagayo, Mitamura & Vamiya			
<i>parapalpalis</i>	----; 143	Roy & Brown	1954
Womersley	----; 235	Womersley	1952
<i>parvifera</i>	----; 190	Womersley	1952
Womersley			
<i>pavlovskyi</i>	----; 294	Wharton & Fuller	1952
Schluger			
<i>pelta</i>	Oct.; 143	Womersley	1952
Womersley			
<i>piercei</i>	----; 242	Womersley	1952
Ewing			
<i>pomeransi</i>	----; 294	Wharton & Fuller	1952
Schluger			
<i>pseudoakamushi</i>	----; 77	Hatori	1919
Hatori			
<i>pseudo-schuffneri</i>	----; 149*	Farner	1943
Walch			
<i>puta</i>	Oct.; 235	Womersley	1952
Womersley			
<i>radfordi</i>	----; 294	Wharton & Fuller	1952
Schluger			
<i>rajoriensis</i>	May; 235	Womersley	1952
Womersley			
<i>rara</i>	----; 146 (On man)	Wharton & Fuller	1952
Walch			
	----; 149*, 190. April; 242	Womersley	1952
	----; 190*	Audy	1950
<i>russica</i>	----; 256	Fuller	1952
(Oudemans)			
	----; 294	Wharton & Fuller	1952
<i>schnitzii</i>	----; 143	Wharton & Fuller	1952
(Oudemans)			

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>scincooides</i> Womersley	---; 242	Womersley	1952
<i>scutellaris</i> Nagayo, Miyagawa, Tamiya & Tenjin	Sept.; 158 ---; 158°	Womersley Wharton & Fuller	1952 1952
<i>siamensis</i> Nadchatram & Mitchell	---; 277	Nadchatram & Mitchell	1965
<i>spicosa</i> Gater	---; 70 Aug.; 190	Womersley Gater	1952 1932
<i>squamifera</i> Womersley	---; 235	Womersley	1952
<i>squamosa</i> (Radford)	---; 143	Womersley	1952
<i>subakamushi</i> Schluger	---; 294	Wharton & Fuller	1952
<i>sylvestris</i> Audy & Traub	Dec.; 190	Womersley	1952
<i>tamiyai</i> Philip & Fuller	Sept.-Nov.; 158° ---; 158	Philip & Fuller Wharton & Fuller	1950 1952
<i>taphozous</i> Womersley	---; 190	Womersley	1952
<i>tenjin</i> Sasa, Kumada, Hayashi & Miura	---; 158	Wharton & Fuller	1952
<i>teramurai</i> Sasa, Kumada & Teramura	---; 158	Wharton & Fuller	1952
<i>tithwalensis</i> Womersley	---; 235	Womersley	1952
<i>traubi</i> Womersley	---; 143	Womersley	1952
<i>vietzi</i> Womersley	---; 143	Womersley	1952
<i>villosa</i> Womersley	---; 143	Womersley	1952

TABLE 1 - MITES (conclusion)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>walohi</i> Womersley & Heaslip	---; 190	Womersley & Heaslip	1943
<i>webri</i> Browning &	Experimental transmission of scrub typhus Sept.-Nov.; 143	Browning & Kalra	1948
<i>wichmanni</i> (Oudemans)	---; 59, 77, 145, 147, 149, 242 (On man, vector of dermatitis	Wharton & Fuller	1952
	---; 145°, 146, 242°	Womersley	1952
	---; 190°	Lewthwaite	1927
<i>zachvatkini</i> Schluger	---; 294	Wharton & Fuller	1952
<i>TYROGLYPHUS</i> <i>farinas</i> Linnaeus	In human alimentary and urinary tracts; 70*	Carter et al.	1944
<i>longior</i>	In sputum of man; 70°	Carter et al.	1944
<i>longior</i> var. <i>castelanii</i> Hirst	---; 70*	Castellani & Hirst	1912
<i>TYROPHAGUS</i> <i>dimidiatus</i> (Schrank)	In human urine; 158	Sasa	1951

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY MITES

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY		
	VIRUS	:	PROTOZOA	:	HELMINTHS	:	OTHER	:
<i>LEPTUS</i>								
<i>akamushi</i> (Brumpt)	Fever							158
<i>autumnalis</i> Gudden					Dermatitis			76
<i>MICROTHROMBIDIUM</i> <i>wichmanni</i> (Oudemans)					Dermatitis			147
<i>NOTOEDRES</i>								
<i>cati</i> Hering					Dermatitis			321
<i>PEDICULOIDES</i>								
<i>ventricosus</i> (Newport)					Dermatitis			70
					Cutaneous eruptions			76
					Dermatitis & Asthma			256
					Dermatitis			317
<i>RHIZOGLYPHUS</i>								
<i>echinopus</i> Fumouze & Robin					Dermatitis			256
<i>parasiticus</i> Dalgetty					Dermatitis			70
<i>SCARCOPTES</i>								
<i>scabisi</i> (De Geer)					Scabies	76	194	
						168		
<i>SCHÖNGASTIA</i>								
<i>schäuffnéri</i> (Walch)	Tsutsugamushi typhus					149	190	
<i>TROMBICULA</i>								
<i>acaruscellaris</i> Walch	Tsutsugamushi							143
<i>akamushi</i> (Brumpt)	Japanese River fever							158 (Philip et al. 1946)
	<i>Rickettsia</i> <i>orientalis</i>					70	149 (Williams 1944)	
						77		
						143	158 (Mehta 1958)	
						144	168	
							190	

TABLE 2 - MITES (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>TROMBICULA</i> <i>akamushi</i> (Brumpt) (cont.)	Scrub typhus					146 242 (Philip 1948) 158
	Tsutsugamushi					59 76 77 (Philip 1948) 143 (Mehta 1937) 149 158 (Philip 1948) 190 (Philip 1948) 242
	Typhus					77 (Geigy & Herbig 1955) 158 (Philip 1948)
<i>TROMBICULA</i> <i>deliensis</i> Walch	<i>Rickettsia</i> <i>orientalis</i>					70 149 77 158 143 168 144 190
	Scrub typhus					242
	Tsutsugamushi					59 70 (Philip 1948) 76 143 145 146 149 (Philip 1948) 190 (Philip 1948) 191
<i>TYROGLYPHUS</i> <i>farinae</i> Linnaeus				Infection of urinary tracts		70
<i>longior</i> var. <i>castellani</i> Hirst				Dermatitis		70

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M. MISCELLANEOUS ARTHROPODS

The entries listed as miscellaneous arthropods are largely scorpions and spiders.

There are in all only 24 species or subspecies listed.

TABLE 1 - MISCELLANEOUS ARTHROPODS

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ASTEGOTERYX</i> <i>styracicola</i> Takahashi	---; pierces skin upon contact causing eruptions; 77	Takahashi	1930
<i>BLATTA</i> <i>germanica</i> Linnaeus	---; experimentally infected with typhoid fever and paratyphus; 294	Rosenholtz & Iudina	1940
<i>BUTHUS</i> <i>europaeus</i>	---; may cause death in children; 143	Efrati	1949
<i>quinquestriatus</i> Homprich & Ehrenberg	---; sting may cause death; 154*	Efrati	1949
<i>CACCOBIUS</i> <i>mutans</i> Sharp	---; rare, in intestines of children; 143*	Iyengar	19281
<i>LATRODECTUS</i> <i>agoyangyang</i> Plantilla & Mabalay	---; in farms, across holes of old stones and dried leaves or stumps of wood on the ground surface, bite poisonous to man; 242*	Plantilla & Mabalay	1935
<i>hasselti</i> Thorell	---; sting poisonous to man; 242*	De Asis	1934
<i>lugubris</i> Motschulsky	---; sting may cause acute abdominal pain; 342*	Hargreaves & Mackenzie	1942
<i>tridacniguttatus</i> Russi	---; ---; 256*	Martzinovskii	1934
<i>LINGUATULA</i> <i>serrata</i> Frölich	---; in respiratory tract of man; 143	Roy & Ganguly	1940
<i>ONTHOPHAGUS</i> <i>bifasciatus</i> Fabricius	---; common, human intestines; 59*, 143*	Iyengar	19281
	---; in lower intestines of children; 70*	Senior-White	1920
<i>ONTHOPHAGUS</i> <i>unifasciatus</i> Schnell	---; in children's intestines; 70*, 143*	Iyengar	19281
<i>PEDICULUS</i> <i>capitis</i> (De Geer)	---; vector of <i>Rickettsia prowazekii</i> ; 25*, 76*, 150*, 158*, 256*	Geigy & Herbig	1955
	---; ---; 77*	Neumann	19131
	---; experimental transmission of recurrent fever; 256	Shapsheva	1924
	---; vector of typhus and relapsing fever; 317**	Anonymous	1944

TABLE 1 - MISCELLANEOUS ARTHROPODS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PEDICULUS corporis</i> De Geer	Eggs in clothing; naturally infected with <i>Spirochaeta recurrentis</i> , in clothing; 76	Chung	1936
	Eggs fastened to threads and seams of garments; bloodsucker; 242°	Banks	1919
	---; vector of typhus and relapsing fever; 317**	Anonymous	1944
<i>humanus</i> Linnaeus	---; experimental transmission of relapsing fever; 76	Chung & Wei	1938
	---; possible carrier of typhus; 76	Liu & Zia	1941
	---; found in houses; 143	Awati	1922
	---; experimental transmission of typhus; 143°	Covell & Mehta	19361
	---; ---; 144*	Lepine	1936
	---; in clothing, natural infected and experimental transmission of plague; 146	Schwellengrebel & Otten	1914
	---; experimental transmission of recurrent fever; 256	Shapsheva	1924
	---; vector of typhus and relapsing fever; 317**	Anonymous	1944
<i>humanus capitis</i> De Geer	---; ---; 76°	Patton	1926
	---; capable of transmitting epidemic typhus and relapsing fever; 168	Barnett & Toshioka	1951
<i>humanus corporis</i> De Geer	---; ---; 76*	Heiao	1945
	---; transmits murine typhus from man to man; 76*	Liu	1944
	---; causes irritation of the scalp often leading to septic infection; 159. ---; ---; 342**	Anonymous	19441
	---; most prevalent during cooler months, vector of epidemic typhus and louseborne relapsing fever; 168**	Barnett & Toshioka	1951
	---; ---; 164**	Heiao	1946
<i>humanus</i> var. <i>vestimenti</i> Linnaeus	---; ---; 76****	Patton	1926

TABLE 1 - MISCELLANEOUS ARTHROPODS (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PEDICULUS vestimenti</i> Nitzsch.	---; vector of <i>Rickettsia prowazekii</i> ; 25°, 76°, 150*, 158*, 256*, 270*	Geigy & Herbig	1955
<i>PERIPLANETA orientalis</i> Linnaeus	---; experimentally infected with typhoid fever and paratyphus; 294	Rosenholtz & Iudina	1940
<i>PHTHIRUS pubis</i> (Linnaeus)	---; experimentally infected with typhus; 76 ---; ---; 76° ---; bloodsucker; 242° ---; vector of typhus and relapsing fever; 317**	Chung Patton Banks Anonymous	1945 1926 1919 1944
<i>PRIONURUS crassicauda</i>	---; ---; 154°	Efrati	1949
<i>NUTHUS martinsi</i> Karsch	---; enters houses during summer, painful sting causing fever and death; 168°	Hsiao	1948
<i>SCOLOPENDRA subspinipes</i> Leach	---; ---; 242°	Remington	1950

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY MISCELLANEOUS ARTHROPODS

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>CACCOBIUS</i> <i>mutans</i> Sharp					intestinal myiasis	143
<i>LATRODECTUS</i> <i>agoyangyang</i> Plantilla & Mabalay					Arachnidism	242
<i>ONTHOPHAGUS</i> <i>bifasciatus</i> Fabricius					intestinal myiasis	59, 70, 143
<i>unifasciatus</i> Schall					intestinal myiasis	70, 143
<i>PEDICULUS</i> <i>capitis</i> (De Geer)	<i>Rickettsia</i> <i>prowaseki</i>				25, 76, 150, 158, 256	
	typhus				relapsing fever	317
<i>corporis</i> De Geer	typhus				relapsing fever	317
<i>humanus</i> Linnaeus	epidemic typhus					144
	typhus				relapsing fever	317
<i>humanus</i> <i>corporis</i> De Geer	Murine typhus				relapsing fever	76
	epidemic typhus				louseborne relapsing fever	168
	typhus fever				relapsing fever	194
	typhus				relapsing fever	342
<i>humanus</i> var. <i>vestimenti</i> Linnaeus	typhus trench fever				relapsing fever	76

TABLE 2 - MISCELLANEOUS ARTHROPODS (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	:	PROTOZOA	HELMINTHS	OTHER	
	RICKETTSIA	:			:	
		:	:	:	:	
<i>PEDICULUS vestimenti</i> Nitzsch	<i>Rickettsia prowazekii</i>					25, 76, 150, 158, 256, 270
<i>PHTHIRUS pubis</i> Linnaeus	typhus			relapsing fever		317
<i>RUTHUS martinei</i> Karsch				fever		168

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13. ABSTRACT

The occurrence of insects and other arthropods of medical importance in Asia and the European USSR is summarized on the basis of a compilation of all available references in the scientific literature. The report includes, for each major group of arthropods, a listing of species and subspecies with biological and distributional data, tabulations of diseases or disease organisms transmitted, and complete literature citations.

The groups of arthropods included, with the number of species or subspecies in parentheses, are:

Part I: Mosquitoes (1236)

Part II: Arthropods other than mosquitoes: Black flies (228), Sand flies (166), Midges (272), Horse flies (1132), Biting flies (9), Non-biting flies (36), Fleas (717), Bugs (11), Urticating and vesicating arthropods (23), Ticks (401), Mites (134), and Miscellaneous arthropods (24).

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Arthropods	9		6			
Mosquitoes	9		6			
Flies	9		6			
Fleas	9		6			
Midges	9		6			
Mites	9		6			
Ticks	9		6			
Asia	9		9			
European USSR	9		9			
Military medicine	4					
Diseases		• •	7,9			
Disease vectors			9			

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